

# South African Medical Journal

Organ of the Medical Association of South Africa



# S.-A. Tydskrif vir Geneeskunde

Vakblad van die Mediese Vereniging van Suid-Afrika

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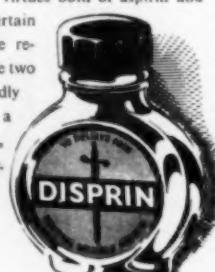
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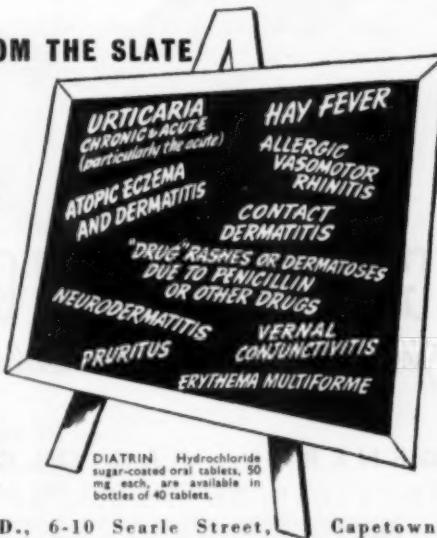


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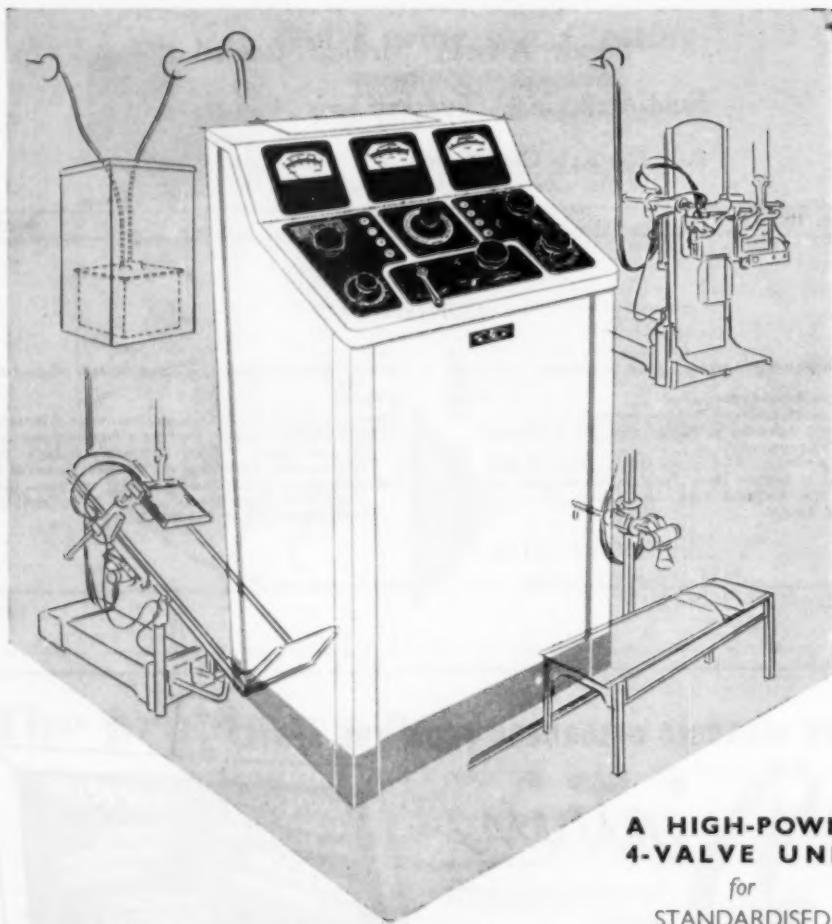
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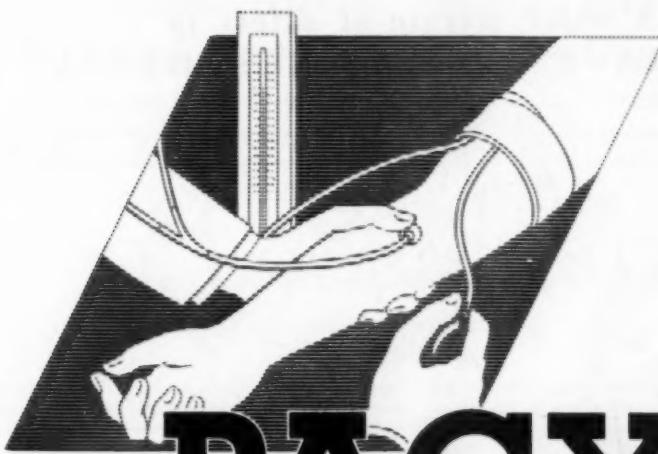
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### A CASE OF YAWS (FRAMBOESIA TROPICA)

A. D. BENSUSAN, M.B., B.CH.

Johannesburg

Yaws (*syn. Famboesia, Boubas (Brazil), Paragni (Ceylon) etc.*) is an infectious, highly contagious, non-venereal disease of the tropics caused by *Treponema pertenue* (*Tr. Pallidum*), a spirochete which is carried by flies, *Hippelates pallipes*. The spirochaete is introduced into the body through some cut or abrasion of the skin, or by direct contact with the discharges.

**Distribution.** The disease is limited to the section of the globe between the tropics of Cancer and Capricorn, as it is essentially a disease of hot, damp, rural districts. It is also prevalent in the East and West Indies, S.E. Asia and the Pacific islands, and during recent years it has become extremely prevalent in Kenya and Uganda which enjoys a high annual rainfall.<sup>1,2</sup> It is the most common disease of bones in the tropics.<sup>3</sup>

**Age Group and Incidence.** If it is not hereditary,<sup>4</sup> but there is a predominance of the disease in young children between the ages of 5-14 years, there being a slight preponderance of males over females. It is almost exclusively confined to the Coloured races, and it is suggested that living conditions in their rural areas account for this, but Stannus<sup>5</sup> asserts that infection occurs equally in European races if opportunity is afforded. Scott<sup>6</sup> reports 7 white miners who developed yaws whilst working in the mines of Johannesburg.

**Historical.** An altogether new disease was described in Columbus' ships in Barcelona in 1493, probably contracted from Indian women by Spaniards who accompanied Columbus, and passed on to the army of Charles VII.<sup>2</sup> It is described as the disease of the Isle of Espanola (Haiti). Various descriptions of the disease which was prevalent in Naples when Charles' troops captured the city were those of *gross boutons, verole, and variola magna*, for skin lesions seemed to predominate.

No discovery has yet been made of a 'bony' lesion of yaws in Europe in pre-Columbian times, although something like 30,000 bodies of ancient Egyptians and Nubians representing the last 60 centuries have been examined.<sup>4</sup>

In Africa, yaws was first discovered by Portuguese travellers in 1442.

**Clinical Picture.** The primary stage consists of the 'mother yaw' (framboesia) which is a granulomatous ulcer produced at the site of the scratch or sore through which

the organisms have entered, usually on the legs or often un-noticed on the buttocks. The sore itself develops 2-3 weeks after infection, and is preceded by malaise, nocturnal headaches and joint pains. The Wassermann reaction becomes positive.

The secondary stage is heralded in 6-12 weeks by a recurrence of malaise and fever and itchy patches which are non-sensitive or painful except on the palms of the hands and soles of the feet. The joint pains become considerably worse, and there are also pains in the bones along the crests of the tibiae, for that is the most common site, others being the ulna and radius, clavicles, lower end of femur, etc. Bony involvement takes the form of fusiform or nodular swellings which are just palpable to begin with and may become elevated 1 to 2 inches above the normal contour, and gross bony deformity takes place when treatment is not begun early. Pain is the usual accompaniment of these lesions, and may be felt before the swellings occur, but it soon disappears on treatment. There is little or no local increase of temperature over the site of the bone lesions.

The swellings are peri-osteal and give rise to the 'boomerang-leg or shin'; an antero-posterior curvature below the knee with a forward convexity, and occasionally localized periostitis.<sup>2</sup> This is quite different from the sabre tibia of syphilis, or the bony changes of tuberculosis, osteomalacia or rickets,<sup>7</sup> for in yaws there is also a rarefying process at work, and radiologically these areas of rarefaction occur early.

Nodules tend to occur in the vicinity of the bony lesions, the so-called juxta-articular nodes, which are firm subcutaneous masses ranging from the size of a pea to that of a tennis ball (average that of a walnut), and the usual sites are the extensor aspects of the elbow and knee joints.

The tertiary stage has the continuation of the osteitis and periostitis which may now involve the fingers as in syphilis, also a chronic ulceration of the palate (gangosa) and a progressive enlargement of the nasal processes of the superior maxilla which eventually form large projecting tumour masses (goundou).

**Differences between Yaws and Syphilis.** Butler<sup>8</sup> has insisted that yaws is syphilis modified by race, climatic influences, immunity, extra-genital infection in childhood

and absence of specific treatment. Hackett<sup>9</sup> has demonstrated the boomerang leg in Australian aborigines in the absence of syphilis among the Natives. Spittel<sup>10</sup> says the difference rests entirely on the history and clinical signs, for laboratory tests afford no help as the spirochaetes are indistinguishable for practical purposes, and in these days of laboratory diagnosis it is refreshing to find here a medical problem which depends for its elucidation solely on the diagnostic acumen of the clinician.

#### TABULATION OF THE DIFFERENTIAL POINTS

<i>Yaws</i>	<i>Syphilis</i>
Not congenital.	Congenital.
Extra-genital primary sore.	Nearly always genital.
Constitutional disturbances slight.	Affects vital structures.
Itching common.	Rare.
Alopecia unknown.	May occur.
Eyes unaffected.	Iritis, etc., common.
Cardiac lesions not described.	
Visceral lesions absent.	
Nervous system not affected.	
Cerebrospinal fluid Wasserman reaction always negative.	Well known.
Lymphatic glands not enlarged unless there is secondary infection. <sup>11</sup>	Usually positive.
Onset rapid and painful. <sup>3</sup>	Constantly enlarged.
Typical yaw is pathognomonic.	Slow, silent onset of pains at night.
Goundou is characteristic.	No corresponding lesions are seen.

#### TREATMENT

*Neoarsphenamine* (Neosalvarsan) has an almost magical curative effect on yaws at every stage, except where bony destruction has taken place.

*Bismuth*. None of the bismuth preparations take the place of the arsenicals in yaws, but combined neo-bismuth treatment is most effective.

*Penicillin*. Striking results have been obtained in the primary and secondary stages. Whitehill and Austrian<sup>12</sup> claim that all lesions healed in 3 weeks.

*Aureomycin*. Until recently yaws has been treated along the former lines, some of which are not without harmful results. Ampofo and Findlay<sup>13</sup> describe successful results, but Killough<sup>14</sup> says Aureomycin, although promising, is not as effective as Penicillin in yaws.

#### CASE REPORT

A 29-year-old ex-garage proprietor from Uganda was admitted to a medical ward at the General Hospital in Johannesburg on 26 October 1951. He had come from Uganda as no progress was being made in the diagnosis and treatment of his condition. He was admitted with the following complaints: pain and swelling of the legs, weakness, depression and loss of 40 lb. in weight in the last 4 months.

He gave a history of having had two separate attacks of malaria in the last 12 months, blackwater fever and relapsing fever. Five months ago a swelling developed on the forehead above the eyes, and 4 months ago he developed excruciating pain and a swelling of both tibiae. He described the pains as sharp, stabbing and shooting in nature. Eight intravenous arsenical injections were administered, the last being 2½ months ago. The swelling on

the forehead disappeared, but the pain and swelling of the tibiae increased. A week before admission a new pain and swelling developed around the region of the right elbow, 'not quite the same as the other pains or swellings'; also he awoke one morning to find his nose painful and swollen as though someone had punched it.

He was a dark-skinned European male, pyrexial and had sub-periosteal bony swellings on the anterior aspects of the upper third of both tibiae, excruciatingly painful to the touch. He also had a swelling over the bridge of the nose and a swelling about 1 inch in diameter on the ulna in the region of the right elbow joint.

A mixed infection of benign and malignant tertian malarial parasites were found in the blood, and he was



Fig. 1. Antero-posterior view showing the lesion in upper third of tibial shaft.

Fig. 2. Lateral view.

Fig. 3. Tomogram showing the sequestrum.

treated accordingly. His mental depression, loss of weight and chronic melaena were soon corrected with assurance and hospital care. He was not anaemic, and the yellow discolouration of the skin was not due to jaundice, as first thought, but was the result of anti-malarial drugs. Examination of the central nervous system was normal, but he walked with difficulty due to the pain in his tibiae. A lumbar puncture was normal in all respects, and the Wassermann and Lange's colloidal test were negative. Blood cultures revealed nothing. Coombs test was negative, agglutinations were negative, but the blood showed strongly positive Wassermann (80 Kolmer units) and Eagle reactions and the gonococcal complement fixation test was positive.

A diagnosis of yaws was made and the patient was given 50,000 units of Crysticillin as a trial dose. He developed a Herxheimer reaction within 2 hours and complained of the most severe and crippling pains at the sites of the bony lesions, and became shocked. To exclude hysteria, an injection of *aq. dest.* was given, and it was explained to the patient that this was an even stronger dose than his first injection, but no reaction resulted. He was then put on to 10,000 units of aqueous Penicillin, and the dose was doubled every 3 hours until he received half a million units every 3 hours, and in all a total of 12 million units. The response was dramatic in so far that the pains disappeared completely after the second day, the patient was sleeping better, able to walk more easily, and within 2 weeks the swellings on the tibiae had receded over  $\frac{1}{2}$  inch in circumference. The swelling on his nose was getting smaller, and the juxta-articular node at the right elbow decreased in size. The Wassermann test showed a quantitative decrease, and the Eagle and gonococcal complement fixation tests became negative.

**Radiological Findings.** The right clavicle was thickened and showed a small punched-out area. The calvarium was dense, and the supra-orbital regions were prominent and sclerotic. Both tibiae showed on their anterior aspect, a small localized area of rarefaction, more noticeable on the left. The area is oval, in the long axis of the bone, and suggests localized destruction associated with periosteal reaction (Figs. 1-3). Tomographs of the sequestrum in the bone suggested that the lesion was unlikely to be due to syphilis.

#### DISCUSSION

It was considered that the rapid onset of the swellings and their extremely painful nature, the typical sites, the laboratory findings, and the absence of venereal infection all pointed to the diagnosis of yaws. A search was made for a possible primary lesion, and disclosed a small circumscribed, almost healed ulcer,  $\frac{1}{2}$  inch in diameter, on the buttock, which might have been the primary site of infection. This infection no doubt was kept under control by the intravenous arsenical injections, but apparently not completely enough to prevent the disease from reaching a secondary stage.

The case was seen by Dr. Helfet of Cape Town who had seen and reported on several hundred cases of yaws, and he considered that this was a case of the bony lesions due to this disease, and the dramatic response to Penicillin was a further point in favour of the diagnosis.

**Summary.** A case of yaws is described and the literature reviewed.

My thanks are due to Dr. S. Fleishman for permitting me to write up this case, which was admitted under his care in Dr. H. Heimann's ward; also to the Superintendent of the Johannesburg General Hospital; and I am indebted to Dr. B. Bradlow for his help in the compilation of this paper.

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#### ABSTRACT

**Calcium Metabolism in Man: Investigation of Absorption and Excretion of Radioactive  $\text{Ca}^{45}$  Administered Intravenously, Orally and Rectally.** W. Geissberger (1951): *Helvet. Med. Acta*, **18**, 461.

Investigations concerning the absorption and retention of calcium are made difficult due to a constant change of calcium in the body. The calcium excreted consists only partly of calcium ingested but not absorbed, the balance being calcium mobilized from the body. This can be proved by administering 'marked' radioactive calcium ( $\text{Ca}^{45}$ ) and measuring the radio-activity of the urine and faeces subsequently.

Geissberger measured the excretion of radioactive  $\text{Ca}^{45}$  in the urine and the stools for 4-7 days after administration of 0.5-1 gm. of  $\text{Ca}^{45}$ -gluconate intravenously, orally or rectally to 12 subjects, 2 of whom were in cardiac failure.

Four days after intravenous administration 20-25% of the

$\text{Ca}^{45}$  is excreted; after 7 days 27-35%, i.e. after one week two-thirds of the  $\text{Ca}^{45}$  administered intravenously is retained in the body. Of the 35% excreted, 20% is excreted through the kidneys, 15% in the faeces. One subject in cardiac failure only excreted 6% through the kidneys and 22% through the faeces.

After oral administration 42% of the  $\text{Ca}^{45}$  is absorbed. After 4 days 30% is retained in the body (less in the subject with cardiac failure). Of the  $\text{Ca}^{45}$  absorbed originally, about equal quantities are excreted in the urine and the faeces. (The case in heart failure hardly excreted any  $\text{Ca}^{45}$  through the kidneys.)

Following rectal administration no  $\text{Ca}^{45}$  is absorbed. Radio-activity could not be detected in the urine, and practically 100% of the  $\text{Ca}^{45}$  was recovered with the first 2-3 stools. The fourth stool showed no sign of radio-activity.

# South African Medical Journal

## Suid-Afrikaanse Tydskrif vir Geneeskunde

### EDITORIAL

#### METABOLISM—A NEW JOURNAL \*

With the increasing specialization taking place in medical practice and research it is not surprising to find new journals being established to gather more appropriately in a convenient place the records of clinical observation and experimental research.

As developments take place, findings are published in a great variety of journals, imposing additional economic as well as even physical difficulties on the conscientious reader. This situation has certainly developed in connexion with clinical and experimental investigations into metabolic problems; and the decision to establish a journal specially devoted to this field is therefore a logical and a timely one.

The new publication covers such diverse fields as nutrition, endocrinology, genetics, dystrophies and such common typical metabolic disorders as diabetes and gout. Although overlap with periodicals devoted to endocrinology and nutrition is unavoidable, the new journal will undoubtedly do much to make modern information about metabolism more easily accessible.

Prof. C. J. Watson points out in a foreword to the first number that one of the most potent factors in the march of metabolic investigation has been the employment of stable radio-active isotopes in 'tracer' studies. Schönheimer first gave the real impetus to this kind of investigation, and the growing numbers of followers are filling in vast gaps in our knowledge of intermediate metabolism. These techniques have been important not only in understanding such difficult problems as the construction of complicated molecules, e.g. the haemoglobin protoporphyrin, but has also had practical application to such conditions as the successful treatment of hyperthyroidism with radio-active iodine.

*Metabolism* will also obviously become the medium for publishing many important contributions dealing with the effects of ACTH and Cortisone, two hormones which make us realize that we stand on the threshold of a new therapeutic era.

The new *Journal* is under the distinguished editorship of Dr. Samuel Soskin, and the consulting editor is that doyen of endocrinologists, Dr. Fuller Albright. The associate editors form an equally distinguished company and the international board includes Prof. J. F. Brock as the South African representative.

The first number of the new *Journal* indicates the excellent quality of the contributions to be expected. Serious students of medicine would be well advised to add this publication to their reading list.

\* *Metabolism: Clinical and Experimental.* Subscription rates: \$10 per year. Published bi-monthly by Grune & Stratton Inc., 381 Fourth Avenue, New York 16, N.Y., U.S.A.

Agents in Great Britain: H. K. Lewis Co. Ltd., 136 Gower Street, London, W.C.1.

### VAN DIE REDAKSIE

#### METABOLISM—'N NUWE TYDSKRIF \*

Met die toenemende spesialisasie wat daar in die mediese praktyk en navorsing plaasvind is dit nie verbasend om te vind dat nuwe tydskrifte gestig word om die rekords van kliniese waarnemings en eksperimentele navorsing meer toepaslik in 'n gerieflike plek bymekaar te bring nie.

Soos ontwikkelings plaasvind word bevindings in 'n groot verskeidenheid tydskrifte gepubliseer, wat addisionele ekonomiese sowel as selfs fisiese moeilikhede op die pligsgetroue leser lê. Hierdie toestand het seer sekerlik ontstaan in verband met kliniese en eksperimentele ondersoek na metaboliese probleme; en die besluit om 'n tydskrif te stig wat spesiaal aan hierdie werk gewy word, is derhalwe logies en tydig.

Die nuwe publikasie dek sulke uiteenlopende gebiede soos voeding, endocrinologie, erflikheidsleer, distrofie en sulke algemene tipiese metaboliese verstorings soos suikerziekte en jig. Hoewel orvleueling met tydskrifte wat gewy word aan endocrinologie en voeding onvermydelik is, sal die nuwe tydskrif ongetwyfeld baie daartoe bydra om moderne inligting omtrent metabolisme baie makliker bekomaar te maak.

Prof. C. J. Watson wys daarop, in 'n voorwoord tot die eerste uitgawe, dat die magtigste faktor in die vooruitgang van metaboliese ondersoek die gebruik van stabiele radio-aktiewe isotope in 'tracer' studies was. Schönheimer het eerste die werklike stoot aan hierdie soort ondersoek gegee, en die groot aantal nakomelinge vul die groot gapings in ons kennis van intermediaire metabolisme aan. Hierdie tegnieke was nie slegs belangrik om sulke moeilike probleme soos die konstruksie van ingewikkeld moleküle soos bv. die hemoglobine protoporfirien te verstaan nie, maar was ook van praktiese toepassing op sulke gestelde soos die suksesvolle behandeling van oormatige skildklieverwerking met radio-aktiewe jodium.

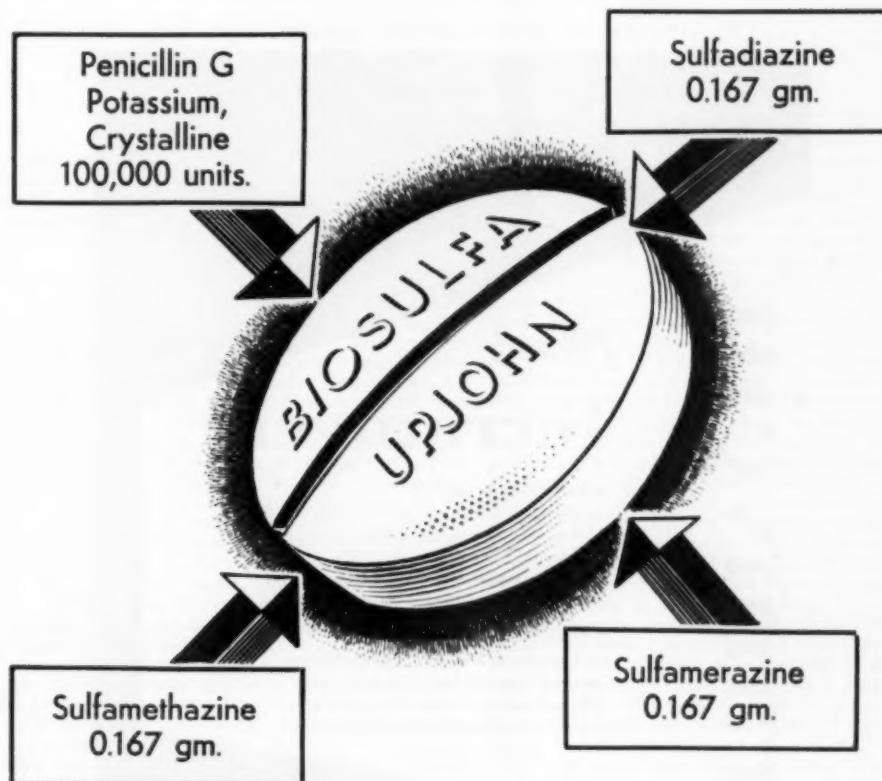
*Metabolism* sal klaarblyklik ook die medium word vir die publikasie van baie belangrike bydraes wat handel oor die uitwerking van ACTH en Kortisoon, twee hormone wat ons laat besef dat ons op die voorraad van 'n nuwe terapeutiese era staan.

Die nuwe tydskrif is onder die uitstekende redakteurskap van dr. Samuel Soskin, en die konsulerende redakteur is die doyen van endocrinoloë, dr. Fuller Albright. Die mede-redakteurs maak net so 'n beroemde groep uit en die internasionale raad sluit prof. J. F. Brock in as die Suid-Afrikaanse verteenwoordiger.

Die eerste uitgawe van die nuwe tydskrif dui aan die uitstekende kwaliteit van die bydraes wat verwag kan word. Ernstige studente in die medisyne sal verstandig wees om hierdie publikasie tot hulle lys van leesstof te voeg.

\* *Metabolism: Clinical and Experimental.* Subskripsiegeld: \$10 per jaar. Tweemaal per maand uitgegee deur Grune & Stratton Inc., 381 Fourth Avenue, New York 16, N.Y., U.S.A.

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## BURNS

## I: RECENT ADVANCES IN MANAGEMENT\*

I. NORWICH, F.R.C.S. (ED.)

*Edenvale Hospital, Johannesburg*

The management of thermal burns and scalds due to flame and wet agencies is a large and varied problem, especially the question of burn shock. Those who handle burns will appreciate the difficulties and pitfalls. In this section it is proposed to deal with the clinical aspect of burns.

**Incidence.** Colebrook<sup>2</sup> states that every year in England and Wales upwards of 10,000 children are admitted to hospitals for burns and about three times as many are admitted as outpatients. Of the 10,000 about 300 die (a number much less than 10 years ago) but recovery is often accompanied by disability. The recent figures from the U.S.A. quote 6,000 deaths per year from burns and their complications. The incidence of permanent disability resulting from burns is very difficult to assess, but deformity and disability, especially of the extremities, is a potent factor in appreciating the harmful and crippling effect of burns. Careful and proper management of all burns, particularly of the extremities, should be uppermost in one's mind to prevent these complications. No comprehensive figures for burn incidence are available in South Africa nor are there any figures regarding permanent disability available from Government Departments. Such statistics are most necessary in the handling of burns in our rapidly extending industrial centres.

**Etiology.** Burns affect males and females of all age groups. They occur in times of peace, in war, in the home, in the factory, on the road and in the air. In South Africa we are faced with an added factor—the burn in the Bantu, especially the Bantu infant and child who is burnt in crowded slum areas. In industry there are the corrosive and non-corrosive chemical burns due to acids and alkalies. A recent description of the burns due to hydrofluoric acid indicates very vividly the crippling and disabling effect of a chemical burn.<sup>3</sup>

**First Aid Management of Burns.** The primary object in the first aid management of severe burns should be to transport the patient expeditiously to a suitable hospital or treatment centre and to maintain the burnt area as sterile as possible. Burns initially are sterile and infection usually sets in from external sources—clothing, handling and the upper respiratory tract of personnel handling the burn.

The degree of shock and the prognosis of each burn depends upon its extent and depth. Smaller areas obviously do not bear the same bad prognosis as a large area, but the possibility of sepsis and disfiguring disability exists in all. Every burn should therefore be transferred

as rapidly as possible to a hospital capable of handling burns. The tendency in the U.S.A. and Great Britain is to establish Burn Centres in predominantly industrial and other areas where burns are prevalent. Such a Centre can handle the emergency treatment and the after-care of all burns. This is ideal and theoretically a sound scheme and although agreeing with the principle, we feel that burns should be handled in all hospitals that care for all acute cases. This is essential, especially in a country like South Africa, where the population is scattered over very wide areas. Every such hospital should have in readiness personnel, equipment and resuscitative measures to deal with burn cases. It would perhaps be better to transport such a burnt patient suitably covered in warm clothing or blankets, or in the original clothing, than to have inexperienced and soiled hands (and unmasked faces breathing organisms into the raw areas) attempting to apply ointments, liquids and a host of other remedies (even coal ash, as is so often seen among the Bantu population). The best first aid advice is to cover the burnt area after the removal of clothing, if this is possible; if not, to leave it alone with nothing more or less than sterile gauze, towels or similar dressings applied and firmly bandaged. It is essential, therefore, for every decentralized clinic, any outpatient department and any first aid station to have readily available sterile dressings, large quantities of sterile gauze, large sterile dressing towels and sterile bandages. Certain pharmaceutical firms put out standardized sterile dressings (packed in suitable cardboard cartons) for small extremity burns.

The last and not least important factor in first aid is to get the patient to a suitable Centre as painlessly as possible. It is most important to comfort and reassure a burnt patient. A patient who is severely shocked and apprehensive is likely to develop a severe attack of traumatic neurasthenia. This only adds to an already existing surgical shock of the worst kind. Sedatives are therefore most essential. If trained personnel are nearby, an injection of morphine or a suitable morphine derivative is the most satisfactory, otherwise any other available sedative could be administered. Large doses of barbiturates, however, may be harmful to a liver already becoming 'toxic' from absorption of shock substances. There are no real practical objections to the use of morphine or morphine derivatives in the acute pain of burns.

**Estimation of Extent of a Burn.** Extensive burns are more dangerous to life than deep burns, although deeper ones are more liable to produce deformity and disfigurement. The classification of burns into first, second, third and fourth degrees, etc., is useful, but from a more practical standpoint one should distinguish early on the clinical differences of partial and full thickness involvement of skin.

\* Read, in part, at a meeting of the Rand Medical Discussion Club of the Medical Graduates Association of the University of Witwatersrand on 29 May, 1951.

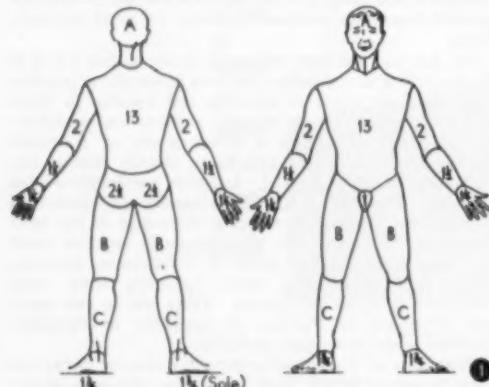
The references will be published at the end of the second part of the paper.

TABLE I: BERKOW'S METHOD FOR ESTIMATING THE EXTENT OF A BURNED AREA

Region	Percentage of Body Surface Involved
<b>Head</b>	6·0
<b>Upper Extremities</b>	
Both Arms and Forearms	13·5
Both Hands	4·5
<b>Total</b>	18·0
<b>Trunk</b>	
Anterior Surface	19·0
Posterior Surface	18·0
<b>Total</b>	37·0
<b>Lower Extremities</b>	
Both Legs	14·0
Both Thighs	19·0
Both Feet	6·0
<b>Total</b>	39·0

CORRECTIONS FOR INFANTS AND CHILDREN OF DIFFERENT AGE GROUPS

Area	Age: 0-1 Year	1 Year	3 Years	10 Years	15 Years	Adult
A: Half of head ..	9½	8½	6½	5½	4½	3
B: Half of one thigh ..	2½	3½	4	4½	4½	4½
C: Half of one leg ..	2½	2½	2½	3	3½	3½



There are many formulae for estimating, in percentages, the area burnt in relation to the whole body. Table I shows a comprehensive chart based on Berkow's formula for estimating the percentages of the area burnt. (See also Fig. 1.) It also allows for infants and children of varying ages.

*Stages of Shock in Burns.*—The arbitrary stages of shock in severe burns are:

1. Primary shock.
2. Shock.
3. Toxaemia.
4. Infection.

These phases overlap and death may occur in any one of these four stages. The general treatment of burns should be directed against each.

#### TREATMENT

There is perhaps no condition in which the general treatment of the patient is of such importance as in burns. It is foolish to lose invaluable time in applying perfect local dressings while a patient is sinking into irrecoverable shock. Local treatment must be used in such a manner that it does not interfere with, but rather complements and supplements general treatment.

There is a growing tendency to treat burns in Burn Units. Colebrook<sup>2</sup> describes the experiences obtained in the Birmingham General Hospital<sup>\*</sup> in treating burns in a Burn Unit where all dressings are carried out in bacteria-free air, in a specially constructed room with a ventilating system which provides filtered and constantly changing air. This is ideal but until such utopian conditions exist in South Africa, every hospital treating acute cases should be ready with personnel and equipment to deal with all types and degrees of recent and acute burns.

The successful management of burns to save life and obtain minimal residual disability must be both local and general. This treatment must be carried out simultaneously because the success of the one will influence the favourable progress of the other.

To illustrate the practical points of one's own clinical views it is proposed to deal with an acute burn with areas of partial and full thickness burn of 30-40% in extent. Such a patient is severely shocked, is brought into the Casualty Ward which in turn transfers him immediately to a Surgical Ward. Those handling the case from the beginning should be masked, with hands well washed and if the burns are already covered they should be left alone.

In the ward the patient must be kept warm. The use of a hot box in body cradles at a higher temperature than 80° F. is deprecated. The patient is already in a state of shock with peripheral vasodilation. Local heat increases this vascular shock. Warm blankets, reassurance and a prompt sedative, if not already given, must be administered. Intravenous Procaine is a useful adjunct either in the early stages or later, in the post-cleansing and after-care period. Until recently 0.01% Procaine has been used, but now an immediate injection of 0.1% is used with gratifying results. This method of administering Procaine can be incorporated later in the replacement therapy. The blood pressure and the extent of the burn is now estimated and an assessment made of further therapy to be carried out.

Briefly, the following measures are to be considered. Because of the extreme loss of serum from the burned areas, fluid must be administered. The amount and rate of administration of blood, plasma, salines, glucose, Dextran and other replacement fluids is still a problem for investigation. It is here that a biochemist and laboratory

\* The writer recently visited this centre.

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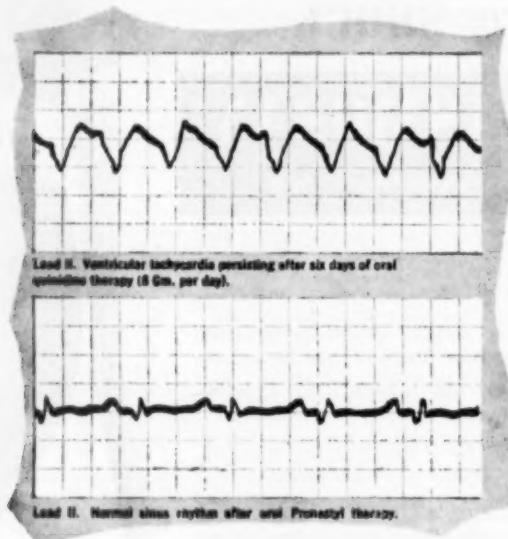
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personnel are essential. Blood volumes, haematocrit levels, blood proteins, blood sodium and potassium and urinary excretion levels are vital knowledge in treating burns effectively. However, such a state exists in very few of our South African Hospitals, so that rough rules must be adopted. For practical purposes any burn of 10% in extent should have replacement therapy. If the patient is severely shocked, plasma or blood is given as much as 1,000 c.c. as rapidly as possible within the first 8 hours; sedatives and intravenous Procaine for the pain and local therapy must be administered as soon as possible. Subsequent parenteral fluid is determined by many factors:—

1. Clinical progress.

2. Blood pressure.

3. Haematocrit level. Harkin's method is still a very useful guide, i.e., 100 c.c. of plasma or blood for every point the haematocrit is above 45, or alternatively, 1.5 litres of fluid intravenously for each 10 per cent. of body surface burned plus a similar amount per mouth.

These laboratory techniques are dealt with in greater detail in Part II.

The technique of administering the fluids intravenously is very important. It is preferable to have a cut-down performed in every case of severe shock with burns, as often the vasoconstriction will upset any well planned 'stick-in'. If in children and infants the usual vein sites are burnt one would advise a cut-down on to the external jugular vein and if this fails, the femoral vein in the groin could be used.

While these resuscitative measures are carried out, local therapy must be effected. If the patient is very shocked, treatment could be carried out in the ward with all the necessary sterile equipment. The nursing and medical personnel in the immediate vicinity should be adequately masked, wearing sterile gowns, using sterile towels and gloves. Endogenous infection is one of the chief sources of sepsis. If the patient is less shocked then treatment could be carried out in a suitably warmed theatre or a special sterile dressing room. General anaesthesia should, wherever possible, be eliminated and replaced by suitable sedatives and, if necessary, intravenous Procaine. If it is still painful, very light general anaesthesia could be used. The present-day methods of local treatment are not as painful as in the days of the tanning technique. The least possible is done, thereby eliminating the painful methods of cleaning and excision of blisters.

It would be interesting and helpful to outline briefly the history of the local management of burns and finally to indicate the methods which are most helpful. In 1945, something like 80 methods of local burn therapy had been published but it is not intended to describe all these.

*Local treatments* may be divided into:—

1. Coagulant or closed methods.
2. Open methods.
3. Combination of both.

1. *The coagulant or closed methods* (more commonly known as tanning) were first used by Davidson in 1925 when he introduced the tannic acid method as a means of preventing serum loss and shutting out any further danger of infection. This technique, modified by many other tanning agents, was in vogue with varying success for many years. It was soon established that this method had definite disadvantages, although the principle was a sound

one. The edge of the tan often curled up, infection crept in and before long infection and pus formation was trapped under a hard leather-like non-resilient tan. The tan often took a long time to separate. In the World War II tanning of burnt extremities, especially the fingers, produced crippling deformities with necrosis of the terminal phalanges. This was probably due to the tan interfering with the blood supply of these digits. The tan destroyed any residual epithelial tissue. This may seriously hinder the new skin formation.

The basic surgical principles must be considered in greater detail because these are often forgotten and sometimes ignored in the constant effort to find new and improved methods of treatment. These principles are briefly:

1. To prevent and combat shock.
2. To convert the open contaminated wound into a clean wound.
3. To cover the open wound by the simplest possible dressings. Such dressings must:
  - (a) Protect the wound from the constant danger of re-infection.
  - (b) Not fix or destroy any part of the skin or subcutaneous tissue which remains viable when the patient is first seen.
  - (c) Provide for drainage of serum that exudes from the burned surface until such exudation is checked by pressure or the normal process of coagulation.
  - (d) Exert a uniform moderate pressure over the burned area.
  - (e) Be easily and painlessly renewed if infection develops underneath the dressing or if the burn involves the whole thickness skin.
4. To keep the injured part at rest.
5. To secure healing in the minimum period of time and with the minimum loss of function.

These principles form the basis of the compression therapy so ably enumerated and practised by Koch and Mason of Chicago. Briefly it consists of cleaning the burns with a bland antiseptic fluid—Cetavlon is most suitable in combination with Zephiran chloride or alone, and copious quantities of saline are used to wash the burnt area. For dirty areas ordinary alkaline soap and soft sterile cloths can be used. Originally the blistered skin was excised, but now all blistered skin is left after a wedge has been excised so that refilling of the blister is obviated. Merely pricking such blisters is inadequate.

The sulphonamide powders or ointments are not used because of the large number of skin reactions. The dressing is firmly bandaged with successive layers of large quantities of wool or sterile mechanic waste. The last bandage should be an elastic one so that the maximum compression is obtained. The extremity should be immobilized in plaster slab bandaged in position. For the hand and fingers immobilization is effectively and painlessly obtained with the Universal Hand Splint (which can be used for the right or the left hand).

*After-Care of Compression.* The dressings are observed constantly to see that the firm compression is maintained. They are usually very comfortable and are left without redressing for at least 10-14 days; if the patient is still comfortable, with no systemic signs or symptoms, the dressing is left in position for a longer period.

The replaced blistered skin has proved to be most valuable. It very often takes as a partial thickness graft. It also provides a protective covering to the underlying

regenerating epithelium. If the whole thickness skin has been involved, skin grafting must be done soon after the removal of the first dressing. This will be considered later. After incomplete destruction of the skin the mechanism of full and complete healing takes place provided:

1. The remaining epithelial elements are not fixed and rendered inert by a coagulating agent.
2. No infection supervenes.
3. Regenerating epithelium is not torn away and destroyed by careless or frequent or too early removal of the protective dressing.

2. *The open method* of treating severe burns was revived in Great Britain during World War II. Immediately after primary cleansing of the burned areas the patient is immersed for varying periods in specially constructed saline baths at regulated temperatures. It is, however, a cumbersome form of treatment requiring a large personnel of specially trained male staff. The results are no better than those of the compression technique, except possibly in the septic case with large sloughs. Sloughs are rapidly separated with these saline baths. For this purpose it is a method to be highly recommended especially before contemplated skin grafting.

3. *The combined open and closed method* is carried out by means of the Bunyan-Stannard Envelope. Bunyan introduced the use of transparent coated silk irrigation envelopes. These are constructed in different sizes and shapes, for use on different parts of the limbs and body. The fabric is transparent and the bag itself has inlets and outlets for regular irrigation with electrolytic sodium hypochlorite, Eusol or any other chlorine derivative solution. Once the irrigation is completed the interior is dried with an ordinary hair drier. The transparent fabric is in contact with the burnt area and daily progress is seen easily. This technique is especially applicable to the septic case where extensive sloughs have to be separated and cleansed. The writer has only utilized this method in this type of septic case with very favourable results. The method is most comfortable.

Of the techniques described the primary cleansing, compression and rest therapy is preferred. One would advise the least possible interference under sedatives and, if absolutely necessary, light anaesthesia. Cetavlon or similar wetting agents are valuable; copious saline is necessary to cleanse the burn. The blister itself is merely evacuated and wedges removed to prevent it from refilling. This modification has proved most valuable as this blistered skin acts either as a graft or as a valuable protective covering to the underlying epithelialization process going on.

#### THE USE OF HOMOGRAFTS

It is well known that homografts as opposed to heterografts only last a short while (anything up to 14 days) and then simply fade away. In the very extensive burn where there is a large area exuding serum and where there is the increased risk of infection and toxicity, the use of homografts may be life saving. It is in the early stages of an extensive burn that the application of homografts is of such great value in preventing excessive serum loss and infection. Extensive experiments by Billingham, Krohn

and Medawar<sup>3</sup> have been carried out to determine how the administration of Cortisone influences the healing of homografts. These writers have shown that Cortisone prolongs the life of homografts but reduces the formation of granulation tissue. Whitelaw<sup>4</sup> recently described a 70% burn that survived with the use of Cortisone. He also indicated that homografts applied in this case all took firmly and permanently under the influence of Cortisone. Many more clinical and control cases will have to be treated before a final decision is reached. If the survival time of a homograft is increased, this alone is of inestimable value. The application of homografts and autografts side by side does not result in complete lysis of the former. It is possible that the survival of homografts under these conditions is due to the ingrowth from the autografts. Grafts from multiple donors are more successful than from a single donor.

#### THE USE OF PENICILLIN AND OTHER ANTIBIOTICS

Penicillin and other antibiotics are valuable adjuncts to the successful treatment of burns. One must, however, not forget the basic surgical principles of asepsis and technique of treatment in the hope that Penicillin and other antibiotics will remedy all. This is far from the position. Penicillin should be given immediately the local and general therapy has been attended to. Penicillin around the clock is preferred, 4- to 6-hourly and approximately 1 to 2 million units per day according to the age and size of the patient. Intravenous Penicillin into the tubing used for fluid replacement therapy is also very useful, especially with established sepsis over a wide area. The use of other antibiotics is discussed under skin grafting.

#### OTHER TECHNIQUES

1. The method described by Barnes of enclosing the burned extremities in plaster casts.

2. Wallace's exposure technique.

The chief principles of this technique are the same for the treatment of burns by other methods, but the additional important factor of drying the burnt area reduces infection very effectively, according to Wallace. The burn is cleaned under aseptic conditions, using Cyclopropane, blisters are snipped and washed with hypotonic saline and the area dusted with lactose containing 10,000 units of Penicillin per gm. The power is insufflated every 4 hours. Wallace claims satisfactory results in superficial and deep burns. The use of grafts follows the crusting as soon as possible, usually on the tenth day. The exposure method is continued after grafting, the grafted area being exposed throughout each day.

#### OTHER GENERAL MEASURES

While a burnt patient is undergoing suitable local and general measures it is absolutely essential to keep up body proteins and attend to protein metabolism, especially with the already undernourished Bantu population in South Africa. Burns along with other acute illnesses cause protein depletion with great rapidity. Oral and intubation feeding become important. The intravenous protein hydrolysates and mixtures of amino acids have proved fairly satisfactory. Protein hydrolysates, how-

ever, are not an efficient treatment of shock and should not be used during the period of actual surgical shock. Whole blood is the method of choice in surgical shock, with plasma and human albumin as effective agents to be used temporarily. Immediately after the danger of shock is over, protein intravenously or food by mouth must be given. Plasma is being widely used in an attempt to repair protein deficiency. This is not an efficient method of treatment. As a treatment for hypoproteinaemic patients one must also remember that plasma contains a great deal of sodium in the form of the original sodium chloride in the blood plus a generous amount of sodium in the form of citrate added to prevent clotting. Large quantities of plasma could well produce increased oedema and heart failure. In severe burns 400 to 500 gm. of protein per day may be life-saving. A suitable formula (Butler) consists of 1 litre Amigen, plus 300 c.c. of 50% glucose, not to be given in less than 4 to 5 hours because rapid administration causes nausea and vomiting. Three such injections a day will furnish 150 gm. of protein and 600 gm. of carbohydrate which represents 3,000 calories. Large doses of vitamins must be added to such a daily diet, viz. ascorbic acid, niacin and thiamin.

In order to restore normal protein metabolism some writers have suggested the use of testosterone. Because so many cases of burns are being kept alive by newer treatments, the anaemia of burns is being encountered

more and more. Apart from blood loss from burnt granulating surfaces, blood is also lost from the effect of heat on the circulating red cells and the inhibition of red cell regeneration. Haemoglobinuria, found in victims of the Coconut Grove Fire, first suggested the probability of internal breakdown of red cells as well. Increased fragility of red corpuscles was detected by Colebrook in his Glasgow Burn Unit and was found to occur in the hours immediately following the trauma.

The treatment of the true anaemia of burns is whole blood transfusion. One sees so often in these extensively burnt cases, especially in infants and children, an almost irreversible process with weak granulating areas that refuse to heal or respond to fluid replacement, with extreme loss of weight and a swinging temperature. This could aptly be described as chronic shock. Experiments carried out on animals have suggested that in severe burns a toxic substance is liberated which induces a condition of capillary atony. This may account for the failure of some severely burnt cases to respond to fluid replacement. Whole blood very often proves satisfactory in these cases.

#### HEPARIN AND BURNS

Heparin has already established itself as a valuable drug in the field of vascular pathology and surgery. Its application is now gradually spreading to other fields. In experiments recently carried out by Parsons, Heparin was found to be useful in animal thermal burns. Normally there is a delay of approximately 4 hours after a burn before vascular occlusion occurs provided the burn is not severe enough to cause immediate coagulation of the epithelium. Heparinization apparently delays the onset of dry gangrene and diminishes the amount of tissue loss. One's experience with Heparin in burns is very limited but it appears to have some usefulness in this field.

#### SKIN GRAFTING IN BURNS

When the full thickness of the skin is destroyed by a burn over a large area, an open wound results and, unless the lost skin is replaced early, healing will occur by contraction of adjacent tissue and by scar; or permanent healing may never occur. No chemical, no ointment and no witchcraft yet devised can produce a covering of epithelium when the whole thickness of skin has been destroyed. Early grafting is essential. It has been shown that 67% of burns grafted on the day of admission remain uninfected, while only 16% grafted at a later date were clean. *Staphylococcus aureus* and *Pseudomonas pyocyannea* are the most difficult organisms to control. Polymixin has proved useful for *Pseudomonas pyocyannea* and coliform bacilli. Grafts have taken more effectively when a mixture of Polymyxin and Penicillin is employed than when Penicillin alone is used. Aureomycin is of value in *Staphylococcus aureus* infection. There is a tendency to agreement among those who handle burns that full thickness skin loss should be excised and grafted on the day of the burning, if the patient's condition and the size of the burn permit this course. Such a course, however, is not very often possible because of the severe degree of surgical shock, especially among our Bantu population. As a rule burns of over 10% body area in children and over 15% in adults are too large for immediate surgery.

For early grafting all the totally destroyed skin must be removed including in mixed burns a small margin of the partially damaged skin. Absolute haemostasis is essential; hot saline packs (and patience) appear to be the most satisfactory method. Split skin grafts are usually sufficient but for deep burns, especially of the hand, where bones and tendons are exposed, full thickness or flap grafts are necessary.

Postage stamp grafts are not desirable, but where it is absolutely necessary to use them owing to shortage of skin, they should never be placed more than  $\frac{1}{2}$  inch apart. If a burn area is extensive, it is better to graft a limited portion of the burn completely than to patch graft with wide areas between the grafts. Refrigerator preservation of grafts has been described as useful especially as they can be applied without anaesthesia.

#### THE USE OF CORTISONE AND ACTH IN BURNS

The literature is most encouraging about the use of these hormones. Crassweller *et al*<sup>15</sup> have recently described in detail the treatment with Cortisone of three severely burnt cases. One case of 55% burn died, despite Cortisone; another with 30% also died, despite a remarkable improvement after the first 8 days. A third patient (20% burn) recovered. More recently Whitelaw<sup>4</sup> described in detail a case surviving with a 70% burn.

Two very interesting facts have so far emerged from the treatment of burns with Cortisone and ACTH. Firstly, their use appears to be an efficient means of overcoming surgical shock and secondly, they allow homografts to take firmly and permanently on granulating surfaces. As already indicated, such homografts up to now have only been temporary and have eventually dissolved away. Much more experimental work, however, is required with a series of control cases to assess the true value of Cortisone and ACTH.

(To be concluded)

## AN UNUSUAL CONSTRICTION RING OF THE UTERUS

L. A. ALLEN, M.B., CH.B.

*Department of Obstetrics and Gynaecology, King Edward VIII Hospital, Durban*

A constriction ring of the uterus was recently photographed at the King Edward VIII Hospital, Durban. As confusion usually arises when discussing retraction and constriction rings, it is advisable to outline both these conditions.

### RETRACTION RING (OR BANDL'S RING)

The physiological retraction ring (or the physiological ring of Bandl) is present in every normal labour, situated at the junction of the upper and lower uterine segments. The ring lies about 2 finger-breadths above the upper border of the pubis. A retraction ring is not palpable.

The pathological retraction ring (or the pathological retraction ring of Bandl) is also present at the junction of the upper and lower uterine segments. It is only present in neglected obstructed labours in the second stage, where it is palpable in the umbilical region. The pathological retraction ring is therefore an exaggeration of the physiological retraction ring, only occurs in obstructed labours, and manifests itself by a gradual rising of the retraction ring to an abnormally high position where it becomes palpable. The pathological ring can be felt as a ring or furrow running obliquely across the abdomen at or near or even above the navel. The foetal heart is usually absent at this stage as the baby is often dead.

*Constriction or Contraction Ring.* This is a contraction of an area of circular muscle fibres occurring during any stage of labour, but usually in the second stage. In the third stage of labour it is often designated an 'hour-glass' contraction ring. This complication in the third stage sometimes follows the use of ergot and pituitary extracts—the uterus undergoes such an extreme degree of retraction that the placenta becomes imprisoned and the shape thus imparted to the uterus resembles an 'hour-glass' constriction.

A constriction ring may occur at any level inside the uterus, and usually encircles a small part of the foetus, e.g. the neck in vertex presentations. The usual sites affected are:

- (a) The junction of the upper and lower segments;
- (b) The internal os;
- (c) The external os, i.e. it may develop below the foetus.

### INCIDENCE

This is variable and probably depends upon whether lesser constriction rings are diagnosed or not. Louw<sup>1</sup> reports 6 cases amongst 1,663 deliveries at the Peninsula Maternity Hospital in 1946. At King Edward VIII Hospital there are about 7,000 deliveries annually. During the past year I know of 2 cases in which the diagnosis was made. Probably milder cases have been missed as the intensity of the ring varies. However, the diagnosis here is rarely made.

### CASE REPORT

*History.* The patient was a 5-gravida. The first, third and fourth pregnancies ended in full-term normal deliveries. The second pregnancy was terminated by classical caesarean section at a district hospital. The indication appears to have been a transverse lie.

The weights of the babies were not known, but the patient stated they were of an average size (approximately 7 lb.). With her present pregnancy the last normal menstrual period was in August 1950. She had been in labour for 24 hours and the membranes had ruptured immediately before my examination on 16 May 1951.

### EXAMINATION

The patient's general condition was satisfactory. The pulse rate was 100 beats per minute, blood pressure 130/80 mm. Hg. The patient was not anaemic and there was no oedema of the feet or sacrum. The urine contained no albumin. The respiratory and cardiovascular systems were normal.

Abdominal examination revealed a full-term pregnancy in the right occipito-posterior position. The presenting vertex was entering the brim but was still mobile. Uterine contractions were strong. The baby felt bigger than normal, and regular foetal heart sounds were heard at 140 beats per minute. On vaginal examination the cervix was 3½ fingers dilated, oedematous and poorly applied to the presenting vertex. The membranes were ruptured. The vertex, in the right occipito-posterior position, was 3 cm. above the ischial spines. Moulding was not present. The pelvic measurements by vaginal examination were:

Brim. Antero-posterior diameter: 3½ inches.

Transverse brim felt contracted with the anterior ½ of the brim easily palpable.

Sacral promontory felt prominent.

#### Cavity.

Sacrum: Well curved.

Ischial spines: Small.

#### Outlet.

Antero-posterior diameter: 4½ inches.

Intertuberous: 4 inches.

Sub-pubic angle: Average female.

The pelvis, therefore, showed a brim contraction with satisfactory cavity and outlet. With Munro-Kerr's manoeuvre the vertex did not engage and there was definite overlap at the pelvic brim.

A diagnosis of cephalo-pelvic disproportion due to a moderate brim contraction with a big baby in a multipara, with a previous classical caesarean section delivery, was made. It was decided to do a caesarean section.

*Operation.* The operation was done under caudal anaesthesia, 70 c.c. of a 1% Procaine solution being used. Premedication consisted of Pethidine 100 mg. and Atropine Sulphate 1/50 gr. These were given subcutaneously 1 hour



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To eliminate pain and infection.

### RESPONSE :

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### REFERENCE :

\*Reid, W. Ogilvy, Brit. Med. J. I. (1946) 648.

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To dissolve debris, deodorise, improve drainage and eliminate infection, at the same time to dry and harden the meatal skin.\*

### RESPONSE :

Improvement is noted early, but treatment may be necessary for some weeks before activity ceases or dry ear results.



### REFERENCE :

\*Reid, W. Ogilvy, Brit. Med. J. I. (1946) 648.

Full literature available on request to

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before the operation. The abdomen was opened by a lower midline incision extending from  $\frac{1}{2}$  inch above the symphysis pubis to the umbilicus. A few adhesions were found attached to the upper part of the body of the uterus.

About 2 inches above the level of the symphysis pubis there was an hour-glass stricture of the uterus (Fig. 1). The stricture separated the uterus into 2 parts. The larger upper part was filled by the body of the foetus and placenta, and the lower smaller part occupied entirely by the foetal head. The previous classical caesarean scar was ill-defined, but was not quite central and it deviated to the right at its lower end where it terminated at the level of the stricture. The baby was delivered by an upper segment caesarean section, a vertical incision being made through the stricture, in order to deliver the foetal head.



Fig. 1. Photograph showing the right side of the uterus with the constriction ring.

The stricture was firm and fibrous in consistency and at the site of the incision was about  $1\frac{1}{2}$  inches thick. Its internal circumference was little bigger than the baby's neck which it encircled. The stricture was slightly oblique with its lower level on the right side, and it persisted after incision. The lower segment was not very thin.

The uterus was closed in layers and finally the abdominal wall was closed in the usual manner. The baby weighed 8 lb. 7 oz. and its general condition was satisfactory.

*Puerperium.* This was uneventful and the mother and baby were fit for discharge on the tenth day.

#### DISCUSSION

In determining the nature of the ring found at operation, the possibilities which one should consider are:

- (a) Physiological retraction ring.
- (b) Pathological retraction ring.
- (c) Constriction ring.
- (d) Fibrous scar tissue ring following previous caesarean section (a conceivable remote possibility).

The ring was obviously not a physiological retraction ring, the labour was not a normal one, and this ring was palpable at laparotomy.

A pathological retraction ring develops in cases of neglected obstructed labour where it is palpable in the umbilical region. Its presence is associated with threatening rupture with marked maternal and foetal distress, and often foetal death. At operation the lower segment is very thinned out. Thus a diagnosis of a pathological retraction ring is not acceptable in this case.

A fibrous scar tissue ring may conceivably develop following a caesarean section, possibly as a result of

infection, imperfect apposition of the uterine incision or imperfect technique. However, these factors usually result in scar weakness, so that rupture is a danger with future pregnancies. This extremely unlikely possibility can be excluded by the occurrence of 2 normal deliveries following the caesarean section. This leaves one with a diagnosis of constriction ring.

De Lee<sup>2</sup> describes a permanent constriction ring. This, he states, is an area of muscular fibres which undergoes contraction and retraction (permanent shortening) and which does not relax under anaesthesia, drugs, incision or after death.

Considering the case retrospectively, this is the most likely diagnosis. Cephalo-pelvic disproportion has been mentioned as a predisposing factor. It is interesting in that the ring was palpable at laparotomy and that a photograph of the ring was obtained.

Many authorities state that a ring is seldom felt abdominally. In Rudolph's series 9% were palpable externally. F. J. Browne,<sup>4</sup> however, writes that on abdominal examination no abnormality due to the ring is found. It is, therefore, uncommon to be able to see and feel a ring. I saw a constriction ring previously 3 years ago at this Hospital. The diagnosis of constriction ring is invariably made on vaginal examination.

#### SUMMARY

A brief description of constriction and retraction rings is given.

A case is described in which a ring was found at caesarean section this was considered to be a constriction or contraction ring.

The case is unusual in that the constriction was palpable at laparotomy and because one was able to obtain a photograph of the ring.

I am grateful to Dr. J. Parker, Medical Superintendent, King Edward VIII Hospital, Durban, for permission to publish this case, and to Mr. Gilbey, F.R.C.S. (Edin.), M.R.C.O.G., Consulting Obstetrician and Gynaecologist, King Edward VIII Hospital, and Dr. N. G. Steere, Visiting Assistant Obstetrician and Gynaecologist, King Edward VIII Hospital, for helpful criticism and advice.

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## THE TREATMENT OF RADIUM BURN

## FISTULAE INTO BLADDER AND RECTUM

A. STUART BOYD, F.R.C.S., M.R.C.O.G.

*and*

G. P. CHARLEWOOD, F.R.C.S., M.R.C.O.G.

*Johannesburg*

With the increasing use of radium for carcinoma of the cervix, it is unfortunately true that radium injuries in this region have also become commoner. Temporary proctitis is the rule rather than the exception while permanent strictures of the rectum are by no means uncommon. The most serious complication of all is a post-radiation vesico-vaginal fistula, a recto-vaginal fistula being almost as bad. When these two complications are combined, the patient is in a distressing state, passing a mixture of faeces and urine from the vagina.

The repair of such a vesico-vaginal fistula is difficult, since the tissues are devitalized from the effects of the radium. The various types of 'flap' operation<sup>1</sup> will almost certainly fail; while even the more successful 'classical' operation<sup>2, 4, 5</sup> cannot in the circumstances be expected to give good results.

With these points in mind the authors decided to use an 'interposition' type of operation. This method was first used for a large fistula by Kelly<sup>6</sup> and subsequently by Whyte.<sup>7</sup> One of the present authors (G. P. C.) had previously used this method successfully in 2 cases of severe fistula of obstetric origin.

The patient was a European aged 53, who had been treated with radium for carcinoma of the cervix in 1948. The radium is said to have slipped out of the cervix, causing the burn. Within a few weeks of this treatment the patient was passing urine and faeces from the vagina.

When seen in 1951 the patient appeared to be rather debilitated. On vaginal examination, no recurrence of growth could be found clinically or on histological examination of a biopsy specimen. A loop colostomy was performed followed by sitz baths to allow the local excoriation to subside.

On 10 August 1951 the patient was anaesthetized and the recto-vaginal fistula was turned into a third degree 'tear', by incising the recto-vaginal septum in the midline as far as the recto-vaginal fistula.

An avard speculum was then inserted into the rectum giving an excellent view of the vesico-vaginal fistula. This was found to be about 2.5 cm. in diameter. The left ureteric orifice was visible and patent, but the right could not be found. The edge of the fistula was denuded of epithelium for a distance of 1 cm. The vesico-uterine pouch of peritoneum was then opened and the fundus of the uterus pulled through into the vagina and stitched to the denuded edge of the fistula (Figs. 1-3). No attempt was made to cover the bare surface of the uterus. This was left to epithelialize over. The bladder was drained by continuous suction for 10 days.

It was noticed post-operatively that there was a con-

tinuous slight leak of urine from the vagina. On discontinuing bladder drainage the patient was able to hold 10 oz. of urine without difficulty, though the vaginal leak continued, suggesting that one ureter was opening outside the bladder. Efforts to locate this ureteric orifice by injecting indigo-carmine intravenously and inspecting the vagina under anaesthesia failed.



Fig. 1. Sagittal section to show the 2 fistulae. The area round the vesico-vaginal fistula which has been denuded of epithelium is shown in heavy ink. The arrow shows where the utero-vesical pouch was opened.

Fig. 2. The fundus of the uterus has been brought into the vagina and stitched onto the denuded area.

Fig. 3. The final result showing the uterus incorporated in vaginal wall, and the cervix reinforcing the site of the previous recto-vaginal fistula.

By November 1951 the fundus of the uterus had become completely epithelialized over. The third degree 'tear' was then repaired by mobilizing the rectum freely round the side of the original recto-vaginal fistula and bringing the edges together in 2 layers in a vertical suture line. The cervix was utilized to reinforce the upper end of the suture line (where the fistula had been) after denuding its under surface of epithelium. On passing a finger up the rectum it was found that there was now some degree of stricture of the rectum.

Post-operatively the patient was passing urine per rectum as well as per urethram. It thus appeared that the missing urethra was opening into the rectum. However, the patient was now completely continent for the first time for 3 years and was delighted!

She was sent home for 2 months before final closure of the colostomy.

## COMMENT

An alternative procedure would have been to close the recto-vaginal fistula and subsequently to transplant the ureters into the sigmoid colon.

One feels that the operation adopted was more satisfactory and probably less shocking to a rather debilitated patient.

The success of the interposition operation depends on the fact that a peritoneum-covered organ is stitched in

contact with raw surfaces and rapidly adheres, making the suture line watertight. The usual disadvantages of the interposition operation as used in the treatment of cyclocele do not apply in a patient of this type.

#### SUMMARY

A case of vesico-vaginal and recto-vaginal fistula caused by a radium burn was successfully treated by a uterine

interposition operation, and the method is recommended for use in this type of case.

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### VERENIGINGNSNUUS : ASSOCIATION NEWS

#### RAILWAY MEDICAL OFFICERS' GROUP

##### MINUTES OF ANNUAL GENERAL MEETING HELD AT 112 MEDICAL CENTRE, FIELD STREET, DURBAN, ON SATURDAY, 13 OCTOBER 1951, AT 9.30 A.M.

*Present:* Dr. L. O. Vercueil (in the Chair) and a large number of members.

The Chairman welcomed the members present and said that as this was the first R.M.O. meeting to be held in Durban for many years, he hoped it would be fruitful.

He gave a detailed outline of the increases granted to the Specialist and General Practitioner R.M.O.s, and indicated that although great progress had been made in this direction, he was not satisfied and had indicated so to the General Manager of the South African Railways. It was his intention to review, on behalf of the Group, claims for further increases in the near future.

*Minutes:* The Minutes of the Annual General Meeting held on 20 October 1950 having been circularized to all members, were taken as read and confirmed.

The Minutes were signed as being in order.

Before proceeding with the business of the meeting, the Secretary announced that a Dinner would be held in the Pioneer Room, Butterworth's Hotel, Durban.

Proposed by Dr. Percy Johnson: That the Group should pay for the Dinner out of Group funds. Seconded by Dr. Grant-Whyte. Agreed.

#### ANNUAL REPORT OF THE HONORARY SECRETARY-TREASURER FOR THE 12 MONTHS ENDING OCTOBER 1951

*Mr. Chairman and Gentlemen:* I have pleasure in presenting to you the Annual Report. The past year has been a stormy one for our Group, involving important matters of principle affecting our privileges and rights granted by our Constitution. Some clouds, however, had a silver lining and, on the credit side, I wish to confirm the fact that since our last meeting the Sick Fund has granted, in response to 1946 requests from the Group, some increases in remuneration, retrospective from 1 April 1951.

Your Executive Committee has had three meetings since the last General Meeting, the first one on the same date as the General Meeting, where it was decided that the Secretary wire Dr. Tonkin informing him of the unanimous resolution of the Group, re-affirming its 1949 Cape Town resolution, that Federal Council negotiate on the five items handed over to them; also, that the Group withdrew, for the present, the 10 minor requests for negotiation by your Executive Committee.

On 7 May, the day after the General Meeting, Federal Council Sub-Committee interviewed the General Manager of the S.A.R. in Cape Town. He refused to negotiate but promised to ask Central Board Executive Committee to interview the Sub-Committee. This interview took place on 12 June. The Deputy Chairman of the Sick Fund informed the Sub-Committee that it would be permitted to state its case, but the Sick Fund refused to negotiate. The Sub-Committee stated its case and the Deputy Chairman of the Sick Fund promised to give consideration to the matters discussed; but, up to date, the Sick Fund has made no move to fulfil this promise, neither has Federal Council Sub-Committee received any further information; and there the matter rests at present, after two years of attempted negotiation by Federal Council.

During April 1951 all R.M.O.s received a circular dated 17 April 1951 from the Central Sick Fund Board, setting out the history of representations made by the R.M.O. Group since 1948. You have all, no doubt, perused this 42-page document. During the same month, and dated 26 April 1951, all R.M.O.s received a *Progress Report* from the R.M.O. Group setting out the history of representations made by the Group since 1930, with their meagre results. I presume you are all acquainted with the contents of this 7-page document as well.

The second Executive Committee meeting of your Group was held in Johannesburg on 6 May 1951. At the suggestion of one or two newly appointed Specialists, the Sick Fund issued special forms to be filled in by the G.P. R.M.O.s when referring patients for consultation and by the Specialists when replying. Your Executive Committee objected to this instruction, as this appeared to be a matter concerning mainly G.P.s and Specialists.

*Surgical Decentralization:* This matter is receiving attention at present, both in regard to venues and remuneration.

Owing to the late compilation, this year, of the list of R.M.O.s by the Sick Fund, it was decided that Group Representatives obtain up-to-date lists of R.M.O.s from their respective District Secretaries, forward these to the Group Secretary, who would indicate membership and return the lists. Some few lists were received. This year less opposition has been encountered to the appointment of assistant R.M.O.s than for many years past. The pernicious habit of requesting R.M.O.s to pay private doctors' accounts, when R.M.O.'s services could not be obtained, has also abated somewhat. Great dissatisfaction was expressed at the small increase in capitation fees for R.M.O.s.

*R.M.O. Group Representation:* As a result of representations made 5 years ago, the following increases in remuneration were granted by the Central Board, retrospective from 1 April 1951:—

1. An increase in capitation fee of 1s. p.a.
  2. Anaesthetic and assistance fees restored to two guineas.
  3. Confinement fees increased to 5 guineas. Ante-natal care only, 2 guineas. Confinement and post-natal care only, 3 guineas.
- Increases in remuneration for Specialists have been granted, retrospective from 1 April 1951. These are as follows:—
- |                                      |                               |
|--------------------------------------|-------------------------------|
| Radiologists .....                   | 6s. 6d. per member per annum. |
| General Surgeons .....               | 4s. 6d. per member per annum. |
| Anaesthetists .....                  | 3s. 0d. per member per annum. |
| Aural Surgeons .....                 | 3s. 0d. per member per annum. |
| Ophthalmic Surgeons .....            | 3s. 0d. per member per annum. |
| Physicians .....                     | 2s. 3d. per member per annum. |
| Pathologists .....                   | 2s. 3d. per member per annum. |
| Gynaecologists .....                 | 2s. 6d. per member per annum. |
| Psychiatrists and Neurologists ..... | 1s. 6d. per member per annum. |
| Radiologists—Therapeutic .....       | 1s. 3d. per member per annum. |
| Pediatricians .....                  | 1s. 0d. per member per annum. |
| Dermatologists .....                 | 1s. 0d. per member per annum. |

**O.F.S. Branch Group:** On 8 September this Branch Group was addressed at Bloemfontein by the Chairman and Secretary of the Group. No O.F.S. Branch Group meetings or elections had taken place for several years. The attendance at this meeting was very poor, but interest was stimulated and an Acting Honorary Secretary, Dr. de Villiers, was elected to reorganize the Branch and to conduct the election of office-bearers. It is hoped that this defunct Branch will now become active again.

The third Executive Committee meeting of your Group was held at Bloemfontein on 9 September. Four Branch Groups submitted 13 items for consideration. After discussion, most of these items were approved. It was decided that no member of the R.M.O. Executive Committee should accompany the Sick Fund Sub-Committee on its Union-wide tour to decide where and by whom surgery should be performed, in connection with decentralization, but to recommend to the Central Sick Fund Board that applications from R.M.O.s should be dealt with in the same way as with any other medical applications. Much time was wasted on a controversy about the Board's decision of increases in surgeons' and anaesthetists' remuneration to 4s. 6d. and 3s. per member, and not to 5s. and 3s. 6d.

Federal Council negotiations on behalf of the Group were discussed, and it was decided by the Executive Committee to make certain recommendations to the Group concerning this matter. The Executive Committee also decided that for a year's trial period, Minutes of Executive Committee meetings be sent to all members.

#### RESULT OF BRANCH GROUP ELECTIONS FOR THE YEAR 1951

**Cape Western:**—*Group Representative*, Mr. W. P. Steenkamp; *Secretary*, Dr. A. Gordon; *Committee Member*, Dr. J. Lee.

**Cape Midlands:**—*Group Representative*, Dr. J. C. Rabie; *Secretary*, Dr. D. van der Merwe; *Committee Member*, Dr. T. Wooldridge.

**Cape Eastern:**—*Group Representative*, Dr. L. Jaffit; *Secretary*, Dr. F. K. Gutsche; *Committee Member*, Dr. A. Butt.

**Cape Northern:**—*Group Representative*, Mr. N. Kretzmar; *Secretary*, Dr. J. H. Kretzmar; *Committee Member*, Dr. J. A. Kieser.

**Natal:**—*Group Representative*, Dr. H. Grant-Whyte; *Secretary*, Dr. P. A. Johnson; *Committee Member*, Dr. C. Weinberg.

**Eastern Transvaal:**—*Group Representative*, Dr. C. H. H. Coetzee.

**Western Transvaal:**—*Group Representative*, Dr. C. Cairncross; *Secretary*, Dr. M. Cohen; *Committee Member*, Dr. H. Penn.

**South West Africa:**—*Group Representative*, Dr. F. J. Marais.

**Orange Free State:**—Nil.

The Minutes of the last Annual General Meeting were sent to all members and published in the *South African Medical Journal*.

**Membership:** During the past year there has been a record increase in membership, larger than any for the past 12 years.

**Financial Statement:** Audited financial statements will be distributed for perusal. As a result of careful administration of the Group's funds in the past years, the financial position is sound to-day. It would appear, however, that if the 50% reduction on subscriptions granted last year, for a year's trial, to about half our members, remains for another few years, the accumulated balance will diminish considerably. I would recommend that this matter be given consideration at next year's Annual Meeting.

In conclusion, Gentlemen, I feel that we owe a debt of gratitude to our Chairman, Dr. Vercueil. He has been a live wire during his past year in office, devoted much time to Group matters, and achieved a great deal for the Group. On behalf of the Group, I wish to pass a hearty vote of thanks to him. I also wish to express appreciation, and to thank, Group Representatives and Branch Secretaries for the large amount of work they have done, for the time spent at District Board Meetings, and for their willing co-operation with the Group Secretary in the interests of the R.M.O. Group.

This, Gentlemen, concludes the Annual Report.

The Report was received with acclamation.

#### ELECTION OF OFFICE-BEARERS FOR ENSUING YEAR

**Appointment of Scrutineers:** Dr. Louis Jaffit, Dr. H. Penn and Dr. C. K. Edelstein were appointed Scrutineers to count the votes cast for the election of Office-Bearers for the ensuing year.

**Result of Ballot:** The Chairman announced the result of the ballot as follows:—

*Chairman:* Dr. L. O. Vercueil.

*Vice-Chairman:* Dr. H. Grant-Whyte.

*Honorary Secretary/Treasurer:* Dr. C. Cairncross.

#### INTERVIEW OF FEDERAL COUNCIL SUB-COMMITTEE WITH S.A.R.

The Chairman gave a résumé of the interview of the Federal Council Sub-Committee, of which Dr. Braun acted as convenor, with the General Manager of the S.A. Railways, and stressed the low rate of remuneration of Specialists and General Practitioners, compared with that pertaining in other Medical Benefit Societies and Medical Aid Societies. He also drew an analogy between the Railway employee and the Mines employee, and gave an account of his recent investigation into these matters in England.

The Chairman indicated that the Acting General Manager, Mr. du Plessis, seemed to appreciate the 'lot' of the Railway Medical Officer. He expressed his appreciation to Dr. Braun, on behalf of the Group, for having gone to such a great deal of trouble on its behalf.

The Chairman said that the time had now arrived when the R.M.O. Group could again take up the cudgels, and suggested that the Group should inform Federal Council of this.

This suggestion was discussed at great length by Drs. Shapiro, Penn, Coetzee, Grant-Whyte, P. Johnson, Young, Kretzmar, Miller and Radford. Finally, it was agreed: That Federal Council be thanked for what it has done, and that the Group should now negotiate on its own behalf.

#### RECOMMENDATIONS FROM BRANCH GROUPS

The Secretary announced that 13 items had been received from 4 Branch Groups. These were as follows:—

##### From the Natal Division:

1. That it should be incumbent on the Sick Fund to give reasons when an R.M.O. is dismissed.

*Proposed* by Dr. C. Weinberg, seconded by Dr. P. Johnson. *Agreed.*

2. That Federal Council should be thanked for its actions so far. *Agreed.*

3. It was noted that the increase of anaesthetic fees to £2 2s. had not been confirmed by the Sick Fund.

Dr. Grant-Whyte said that the implication was quite clear.

4. *Proposed* by Dr. Renton, seconded by Dr. Cohen:

That in the interests of economy, all Sick Fund benefits should only be obtained while under the care of an R.M.O. and patients going outside the services should be debarred from approaching an R.M.O. with a request to sign authorizing any benefits prescribed by an outside doctor. *Agreed.*

In the discussion that followed this proposal, Dr. Johnson said that the R.M.O. is always asked to exercise every economy. There were certain preparations which outside doctors could get, but which were denied to R.M.O.s, and he considered this a slur on the R.M.O.

Dr. Fleming Johnston agreed.

Dr. Percy Johnson then *proposed*: That the Group informs the Central Sick Fund Board that it is unable to accept the portion of the instructions contained in 'General' on page 5 of General Secretary's Circular G.5.12 of 25 May 1951, wherein R.M.O.s are prohibited—

(a) from mentioning the existence of a particular ethical preparation which may be a specific remedy for a particular disease;

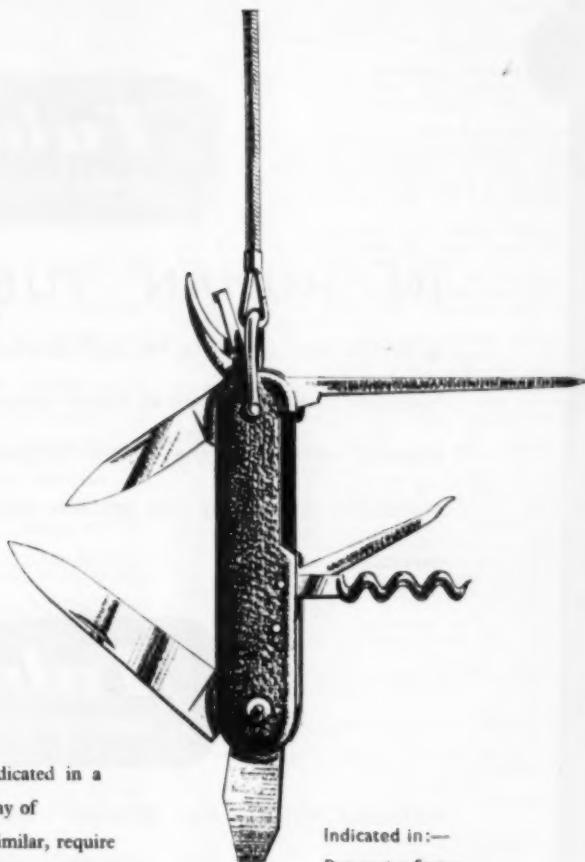
(b) from handing to a beneficiary a script for purchase, at member's expense, of such an ethical preparation;

That this Group claims protection from this instruction, under paragraph 78, Section 26 of Chapter XIV of the South African Medical Council Regulations of 1950;

That this Group feels it would be guilty of unethical conduct in the eyes of the Medical Council should it be a party to the concealing of a particular specific treatment from a patient.

*Seconded* by Dr. J. D. Fleming Johnston. *Agreed.*

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5. Proposed by Dr. C. Weinberg, seconded by Dr. Fleming Johnston:  
(a) That remuneration for R.M.O.s' services at workshop ambulance rooms be increased. *Agreed.*

6. (b) That the R.M.O. Executive Committee should continue to press for a Pension Scheme. *Agreed.*

In the course of discussion, the Chairman said that so far the Sick Fund had not agreed to a Pension Scheme, but the matter is being constantly raised and it is hoped that something will materialize shortly. Dr. Rabie has done considerable work in this connexion and it is anticipated that his labours will bear fruit in the not too distant future.

*From the Cape Western Division:*

7. *Capitation Fee:* Proposed by Dr. Gurland, seconded by Dr. Nel:

That the Cape Western Sub-Group, while appreciating the recent increase in capitation fee, protests that it considers the increase is still inadequate.

8. *Increased Locum Fee:* Proposed by Dr. Durr, seconded by Dr. van der Merwe:

That the Cape Western Sub-Group is of opinion that R.M.O.s who have had over 15 years' service should receive a locum fee of £3 3s. per day.

9. *Medical Examination of Recruits:* Dr. Gurland moved and Dr. Durr seconded:

That the fee for medical examination of recruits be increased from 5s. to 10s. 6d.

10. *Non-European Capitation Fee:* Dr. Hoffmann moved and Dr. Gurland seconded:

That the non-European capitation fee be increased *pro rata* with the European capitation fee.

11. *Pension Scheme:* Dr. Cairncross reported that Dr. Rabie had been entrusted to draw up a Pension Scheme, and the results would be announced later.

The Chairman said that all these matters would be taken up with the Central Executive of the Sick Fund, at the meeting to be held on 8 November.

With regard to the non-European capitation fee, this matter has been referred to the District Boards for consideration, and Federal Council has suggested 12s.

*From the Western Transvaal Branch Group:*

12. That all negotiations with the Sick Fund, in future, be carried out by the R.M.O. Group, but that the Group reserves the right to request the assistance of Federal Council when it deems this necessary. *Agreed.*

13. That no member of the Group shall present written or verbal memoranda of any nature to the Sick Fund, which in any way affects other members of the Group, without prior consent of the R.M.O. Executive Committee, and that this rule be incorporated in the regulations of the R.M.O. Group constitution. *Agreed.*

REQUESTS FROM THE CENTRAL SICK FUND BOARD

1. *Medical Histories:* It has been suggested to the Executive Committee that R.M.O.s should keep medical history cards of their patients.

2. *Regular Overhaul of Sick Fund Members:* It has been suggested that regular overhaul of Sick Fund members should be done by R.M.O.s, whether the members were ill or not.

These two matters were discussed, and it was considered by the meeting that although these suggestions were good in theory, in practice it would be impossible to carry them out.

*Financial Statement:* The Financial Statement was then presented by Dr. Cairncross.

Dr. Grant-Whyte moved the adoption, seconded by Dr. P. Johnson.

The audited Financial Statement was accepted and signed.

At this stage the Chairman congratulated the Secretary for his untiring work during the past year. The Secretary suitably replied.

*Surgical Decentralization:* The Chairman said that the General Manager was in favour of someone being appointed in each place, but the meeting felt that such surgery that had to be done in outlying areas should be spread among the R.M.O.s in the particular area, and not be undertaken only by one individual.

*Workmen's Compensation Act Cases:* The Chairman said that the matter of payment for these is again being taken up with the Central Sick Fund Board.

*Maternity Fees:* This matter is to be discussed by the various R.M.O. Branch Groups before the views of the Group are given to the Sick Fund, especially with regard to the question of ante-natal care.

The following resolution was carried, *nem con.*, for submission to the Central Sick Fund Board:

That only the R.M.O. of the patient's residential district should be allowed to claim ante-natal fees, provided that he has performed some of the ante-natal work for that pregnancy.

This was proposed by Dr. Percy Johnson, seconded by Dr. Fleming Johnston. *Agreed.*

Mr. W. P. Steenkamp submitted three resolutions on behalf of the R.M.O. Surgeons:

1. That in view of the fact that recent increases granted to Specialist Surgeons amount to 1s. (3s. 6d. to 4s. 6d.), i.e. a rise of 30%, it would appear that other specialties have been granted an average increase of 50%. The Surgeons, therefore, urgently request that the capitation fee be raised to 50%.

2. That in areas where the services of a Gynaecologist and Ear, Nose and Throat Surgeon are not available, the General Surgeon, if he does the work, be paid half the capitation fee for such a speciality.

3. That where, due to removal of cost-of-living allowance, the Surgeon in question loses on the deal, a suitable adjustment be made.

The Surgeon R.M.O.s requested that these resolutions be placed before the Central Executive.

CONTRACT PRACTICE COMMITTEE

Mr. Penn suggested that a Contract Practice Sub-Committee of the Railway Medical Officers' Group should be formed, and gave strong reasons for this suggestion.

After discussion, it was agreed, on a proposal by Dr. Grant-Whyte, seconded by Dr. Knowles:

That the Executive Committee be asked to function as a Contract Practice Committee of the Railway Medical Officers Group, and have full power to co-opt.

The meeting closed at 1.50 p.m. with a hearty vote of thanks to the Chairman and Secretary.

C. Cairncross,  
Hon. Secretary; Treasurer,  
R.M.O. Group.

81 Jenner Chambers,  
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Johannesburg.

IN PASSING

NAPT COMMONWEALTH AND EMPIRE HEALTH AND TUBERCULOSIS CONFERENCE: 8-13 JULY 1952

The Conference is open to all interested in preventive medicine, including the medical and veterinary professions, commercial and industrial executives, nurses, social workers, health administrators, members of public authorities, regional hospital boards, etc. At the last Conference over 1,000 delegates from 50 countries were present, and this year representatives from 28 countries are already expected. The countries concerned are Argentina, Australia, Belgium, Bolivia, Brazil, Canada, Denmark, Eire, Fiji, France, Germany, Gold Coast,

Hong Kong, India, Japan, Jugoslavia, Libya, Mauritius, New Zealand, Nigeria, Northern Rhodesia, Nyasaland, Singapore, South Africa, Spain, Tanganyika, Trinidad, U.S.A.

The Minister of Health (Rt. Hon. H. F. C. Crookshank, M.P.) has promised to attend on the morning of Wednesday, 9 July, when Prevention and Care Work by Local Health Authorities, and Protective Vaccination, will be discussed. The Secretary of State for the Colonies (Rt. Hon. Oliver Lyttelton, D.S.O., M.C., M.P.) will be present at the session on Tuber-

culosis in British Colonial Territories on Thursday, 10 July, and the Secretary of State for Scotland (Rt. Hon. James Stuart, M.V.O., M.C., M.P.) at the session on Tuberculosis—A Problem for All Peoples, on Tuesday, 8 July. Other interesting discussions will be on The Social Workers and the Tuberculous Family, The Patient in Industry, and Non-Respiratory Tuberculosis.

Among those who have already promised to speak are: Dr. I. L. Briggs (Northern Rhodesia), Dr. G. C. Brink (Department of Health, Ontario, Canada), Dr. V. Clausen (Vordingborg Sanatorium, Denmark), Dr. F. van Diente (Chief, BCG Department, Institut Pasteur, Paris), Dr. P. W. Dill-Russell (Nyasaaland), Dr. Charles Hill, M.P. (Parliamentary Secretary, Ministry of Food), Dr. J. B. McDougall, C.B.E. (World Health Organization), Dame Dehra Parker (Minister of Health,

Northern Ireland) and Dr. John A. Scott (Medical Officer of Health, London County Council).

A new feature of the Conference will be special smaller gatherings for those with particular interests, whether doctors, nurses, public health officials or social workers, at which appropriate subjects will be discussed. There will be a large exhibition of medical and scientific interest, including art and occupational therapy sections and a mass radiography unit in action. Receptions for delegates are being held at many well-known institutions, and a large number of visits to hospitals and sanatoria have been arranged, in addition to tours of general interest.

All information can be obtained from the NAPT, Tavistock House North, Tavistock Square, London, W.C.1.

## REVIEWS OF BOOKS

### STRESS

*Annual Report on Stress.* By Hans Selye, M.D., Ph.D. (Prague), D.Sc. (McGill), F.R.S. (Canada). (Pp. 511 + xxii + 133R, with illustrations. \$10.00.) Montreal, Canada: Acta, Inc. 1951.

*Contents:* Part I. General Physiology and Pathology of Stress. 1. Reviews and Critiques. 2. The Stress Concept in 1951. 3. Definitions and Terminology. 4. The Stressor Agents. 5. The Adaptive Hormones.

Part II. Special Physiology and Pathology of Stress. 6. General Metabolism. 7. Carbohydrate Metabolism. 8. Lipid Metabolism. 9. Nitrogen Metabolism. 10. Salt and Water Metabolism. 11. Hormones and Hormone-like Substances. 12. Enzymes. 13. Vitamins. 14. Hemoglobin and its Derivatives. 15. Glutathione. 16. Morphologic and Functional Changes in Various Organs. 17. Skeletal System. 18. Teeth and Gums. 19. Blood-Count. 20. Erythrocyte Resistance. 21. Erythrocyte Sedimentation Rate (E.S.R.). 22. Blood-Sudging. 23. Bleeding-Time. Blood-Clothing. Platelets. 24. Hemopoietic System. 25. Lymphatic Vessels and Lymph-Flow. 26. Cardiovascular System. 27. Kidney. 28. Respiratory System. 29. Muscular System. 30. Nervous System. 31. Sensory Organs. 32. Gastrointestinal System. 33. Liver. 34. Endocrine Glands. 35. Skin and Appendages. 36. The 'Brown Fat' or 'Hibernating Gland'. 37. Baroreceptors. 38. Inflammation. Capillary Permeability and Spreading. 39. Reticulo-Endothelial System (Res.). 40. Serologic Reactions. 41. Wound-healing. Regeneration. Mitosis and Connective Tissue. 42. Neoplasia. 43. Malformations. 44. Various Other Changes.

Part III. After-thoughts. 45. Sketch for a Unified Theory of Medicine. Index. References.

*Annual Report on Stress, 1951*, serves as a companion volume to Selye's monograph, *Stress*. Each section in the *Annual Report* is written as a complement to the corresponding section on the monograph. Duplication of material already presented in the original monograph is scrupulously avoided, except in the case of the chapter on the *Stress Concept in 1951*, where important new facts are incorporated into the general structure of the general adaptation syndrome mechanism as previously described thus bringing the historic development of this concept up to date. The *Annual Report* is a treatise in which newly acquired data published throughout the world in different languages are classified, systematized, critically evaluated and integrated into the general body of knowledge.

The volume is subdivided into 2 main sections, dealing respectively with the general and the special physiology and pathology of stress. The stressor agents or 'alarm' stimuli which give rise to the manifestations of the general adaptation syndrome and the adaptive hormones which play a major role in its production are considered in detail, and the principal objections which have been lodged against the concept of stress as a factor in the genesis of disease are critically evaluated.

The relationship between the genetic role of stress and the general adaptation syndrome and the therapeutic efficacy of Corticotropin (ACTH) and Cortisone is given full consideration in respect of a wide variety of diseases and abnormal states, covering almost the entire field of medicine. The effects on metabolism and the morphological and functional changes in the various organs and systems are dealt with in the same light.

This book is not meant to be read from cover to cover, but rather to expedite the task of finding specific information concerning any one problem without having to read through lengthy discussions on unrelated topics.

The subject is new and yet has already affected almost every aspect of medicine. As an indication of the phenomenal

development of the concept of Stress in medicine, the author points out that in 3 reviews on the general adaptation syndrome, dated 1937, 1946 and 1950, the lists of references in each numbered respectively 30, 698 and 5,500. The present annual report for 1951 lists approximately 3,500 references. For the practising physician or investigator, who wishes to familiarize himself with this most important trend in medicine, this volume will prove most invaluable.

### SEXOLOGY

*The International Journal of Sexology.* Vol. V, No. 2. Total Issue No. 31, November 1951. Pp. 60-122. £1 2s. per year. India: The International Journal of Sexology. Whiteaway Building, Bombay 1.

*Contents:* 1. Onanism: An Anthropological Survey. 2. Treatment of Subacute Semen. 3. Impotence and the Law of Divorce. 4. The Influence of Heterosexual Culture on the Attitudes of Homosexuals. 5. Further Notes on Mechanotherapy of Impotence. 6. Shakespeare's Sonnet 69—Sociological Annotations on Possible Biological Variations. 7. The Relationship of Sexual Relations to General Reactions Affecting Human Relationships. 8. Neurotic Counterfeit-Sex. 9. Sexual Attitudes in the Scientific Medical Literature. 10. The Present Status of Family Life Education in Finland. 11. Notes and Comments. 12. Correspondence. 13. Questions Answered. 14. Reviews.

This publication has among its objects the determination 'to secure adequate recognition by medical and social science of the significance of sex and its interactions with personal, marital and social life'. It also sets out to do propaganda by publishing authoritative scientific articles in the field of sex.

As is clear from the Table of Contents, the subjects covered certainly form a series of topics which are very closely related to the objects of the *International Journal of Sexology*.

The contributions by the various authors are extremely interesting and should be of great value in expanding the horizons of physicians who have to cope with 'ignorance and distorted notions, which are so largely responsible for sexual disharmony, marital maladjustment and family disruption'.

This is a Journal worthy of active support.

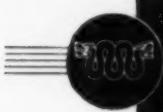
### INHERITANCE OF BLOOD GROUPS

*Human Blood Groups and Inheritance.* By Sylvia D. Lawler, M.D., and L. J. Lawler, B.Sc. With a foreword by R. R. Race, Ph.D., M.R.C.S. (Pp. 85 + viii. 6d.) London: William Heinemann Limited. 1951.

*Contents:* 1. Historical Survey and General Principles. 2. Techniques Used in Blood Grouping. 3. The A, B, O Blood Group System. 4. The Rh Iso-Blood Groups. 5. The MNS Blood Groups. 6. Other Blood Group Systems. 7. The National Blood Transfusion Service. 8. Blood Groups and Biology. Glossary. Index.

This little booklet has been prepared for the student of biology and the lay reader who is prepared to make the effort to understand one of the most fascinating developments which have taken place in recent years.

Although the monograph is concerned with human blood groups, it automatically exposes to the reader the principles of biological inheritance and thus indicates to him the much wider significance of the rules which determine the way in which blood groups are passed on from parents to off-spring.



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The Rh groups naturally come in for very special mention, but the implications of the blood groups in biology, anthropology and law are by no means neglected.

This excellent discussion will be invaluable to the undergraduate medical student and the practising physician who graduated before our current concepts about the blood groups and inheritance were so fully developed.

#### JAPANESE PRISON CAMPS

*Deficiency Diseases in Japanese Prison Camps.* By Dean A. Smith and Michael F. A. Woodruff. Medical Research Council Special Report Series No. 274. (Pp. 209 + viii, with illustrations. 6s. 6d.) London: His Majesty's Stationery Office. 1951.

**Contents:** 1. Introduction. 2. Prevailing Deficiency Diseases. Report on Deficiency Diseases in Japanese Prison Camps: 1. General Conditions in the Camps. 2. Record and Evaluation of the Diets. 3. Manifestations of General Undernourishment. 4. Chronic Deficiency. 4. Manifestations of Qualitative Undernourishment: Deficiency Diseases. 5. Concluding Chapter. 6. Camp Populations. 7. Other Diseases of Patients Admitted to Military Hospital with Deficiency Diseases. 8. Rations and Composition of Diets. Appendix A. Methods Devoted for Utilizing Foods and Other Products of Nutritional Importance. Appendix B. Description of Photometer for Determining the Capacity for Dark Adaptation. Appendix C. Details and Histories of Cases of Agranulocytosis and Spastic Paraplegia. References.

This report is based on a remarkable series of observations on prisoners in Japanese Prisoner-of-War Camps. As is to be expected, the diseases in the Far East were manifestations of B-complex factors deficiencies but vitamins A and C came in for their fair share of attention. This report is important because it emphasizes and clarifies the problem of the manifestation of general undernourishment, e.g. simple caloric deficiency.

Important practical conclusions about the supplementation of the poor type of Asiatic diet are also described, e.g. the dramatic and life-saving effect of the addition of beans, rice polishings, yeast, etc. The authors attribute the comparatively low mortality in the camps to the careful production and use of these food materials. Crude as the methods were, they have an important bearing on the problem of their large-scale application to Oriental diets in time of so-called peace.

#### THE PRICE OF PREVENTION AND CURE

*The Cost of Sickness and the Price of Health.* By C.E. Winslow, Dr.P.H. (Pp. 106. 7s. 6d.) Geneva, Switzerland: World Health Organization. 1951.

**Contents:** 1. The Cost of Sickness. 2. Methods of Reducing the Burden of Disease, and the Economic Results Attained. 3. Planning a National Health Programme and its Cost. 4. Interrelationships of Poverty and Disease. 5. Programme of Technical Assistance. Index.

A study entitled *The Cost of Sickness and the Price of Health*, prepared by Professor C.E. A. Winslow, has just been published as No. 7 in the Monograph Series of the World Health Organization.

The key-note of the study is that 'prevention is not only better than cure, it is also cheaper', a contention which has long been recognized by public-health workers, yet ignored by some economists. The relatively small investment involved in a sound public health programme is contrasted with the 'staggering burden upon the human race' imposed by the cost of preventable diseases. The economic burden of many diseases in a number of countries is discussed on the basis of impressive data, with the conclusion that 'Every step that can be taken towards lessening this burden will not only diminish suffering and prolong human life; it will also increase productivity and promote prosperity. This prosperity, in turn, must not be considered as an ultimate end in itself. If wisely conducted, economic improvement may make it possible for peoples... to enjoy a fuller and a richer existence. "That they might have life, and that they might have it more abundantly" is the objective of the programme of public health.'

The study outlines the various methods of reducing the burden of disease and the economic results thus obtained. General indications are given of the cost of planning a national health service and of the needs it would meet. In the more prosperous areas in the world, a purely preventive programme can be financed at 0.5% of the national income, while curative

medicine requires an expenditure 10 times as great. Even so, the expenditure involved in the improvement of health conditions in underdeveloped countries is too great to be supported unaided by these countries. The world-wide programme of co-operative assistance, a programme which, to the historian of the future, 'may well seem... one of the most brilliant and outstanding contributions of the 20th century to world history', is outlined and discussed.

The problem of health cannot, however, be solved by the public health worker alone. It is not enough 'for the health administrator to develop the soundest possible programme for his own field of social endeavour.... He must also sit down with experts on agriculture, on industry, on economics, and on education and integrate his specific health programme as a part of a larger total programme of social reconstruction'.

Professor C.E. A. Winslow, the author of the study, is one of the foremost authorities on public health, and through his pioneer work has come to exercise a great influence in the medical and public health professions. His study is not addressed only to the medical man, but also to the economist, the politician, the sociologist and all those interested in the problems of modern society.

#### THE NEWBORN INFANT

*The Physiology of the Newborn Infant.* By Clement A. Smith, M.D. (Pp. 348 + xii. Second edition, 55s.) Oxford: Blackwell Scientific Publications Limited. 1951.

**Contents:** 1. Introductory. 2. Respiration: Fetal Aspects. 3. Respiration: Neonatal Aspects. 4. The Circulatory System. 5. The Blood. 6. Icterus Neonatorum. 7. Metabolism and Heat Regulation. 8. The Physiology of the Digestive Tract. 9. Fetal and Neonatal Nutrition: Assimilation and Metabolism of Specific Food Substances. 10. Minerals and Vitamins. 11. Renal Physiology: Regulation of Water and Electrolytes. 12. Neonatal Endocrinology. 13. Neonatal Immunology. Index.

This is the second edition of a book which, for the last 5 years or so, has been one of the most comprehensive reference texts on the physiology of the newborn infant. The fundamental studies reported are important not only for those who have a merely academic interest in problems of respiration, but also for the practising paediatrician.

The value of the volume is largely enhanced by the clinical sections in each chapter and the author has taken the opportunity to expand these in the new edition.

On the inside back cover is a most valuable Table giving normal values of laboratory and other findings in normally-born infants.

This monograph is a *sine qua non* for the physiologist as well as the physician.

#### PAINLESS CHILDBIRTH

*Relief of Pain in Childbirth: A Handbook for the General Practitioner.* By W. C. W. Nixon, M.D., F.R.C.S., F.R.C.O.G., and Shila G. Ransom, M.R.C.S., L.R.C.P., D.A. (Pp. 106 + vi, with illustrations. 7s. 6d.) London: Cassell & Company Limited. 1951.

**Contents:** 1. The Present Position. 2. Antenatal Preparation. 3. Analgesic Agents and Methods. 4. Analgesic Agents and Methods (continued). 5. Normal Labour. 6. Abnormal Labour. 7. Resuscitation of the Newborn. Appendix. Bibliography. Index.

The authors give a brief survey of the use of analgesics in domiciliary midwifery and make a plea for closer co-operation between doctor, midwife and mother. The importance of adequate ante-natal preparation is discussed and its value to the mother and indirectly, to the obstetrician, is stressed.

The authors' criteria for satisfactory analgesia are that the final result to the mother should be the one that gives her most satisfaction, that the method should be harmless and that it should be practical. They are biased in favour of those drugs which allow of the fullest co-operation of the mother but they discuss all the most widely used agents, together with dosages and methods of administration which have been found most satisfactory.

General and local anaesthetic methods are reviewed in relation to labour complications and obstetrical operations and helpful information on spinal anaesthesia and nerve block is given.

A section on the prevention and treatment of foetal respiratory complications is very rightly included. The book can be recommended with confidence to all who practise midwifery.

## MALARIA

*Recent Research in Malaria.* British Medical Bulletin Vol. 8, No. 1, 1951. (Pp. 110 + xi, with illustrations. 7s. 6d.) London: The British Council. 1951.

**Contents:** Part I. Recent Research in Malaria. 1. Introduction. 2. Life-Cycle of the Mammalian Malaria Parasite. 3. Patterns of Exoerythrocytic Schizogony. 4. Tissue Culture of Plasmodia. 5. The Metabolism of Malaria Parasites. 6. The Physiological Approach to the Problems of Malaria. 7. Community Aspects of Immunity to Malaria. 8. Chemotherapy of Malaria. 9. Drug-Resistance in Malaria. 10. Clinical Chemotherapeutic and Immunological Studies on Induced Malaria. 11. Mosquito Infection in Artificially Induced Malaria. 12. Recent Progress in Malaria Control by Insecticidal Measures. Part II. Commentary: History of Malaria. In The Malaria Education Scheme in Mauritius. 14. A Brief Story of English Malaria. 15. Consultant Services in the National Health Service. Annotations and News. Historical Notes. Book Reviews. Shorter Notices. New Editions. Books Received. Films.

## DOCTOR'S AUTOBIOGRAPHY

*Leaves From a Doctor's Life.* By Philip Panton. (Pp. 232, with illustrations. 18s.) London, Melbourne, Toronto: William Heinemann, Limited. 1951.

**Contents:** 1. Infancy, 1877-1885. 2. Preparatory Schools, 1885-1891. 3. Harrow, 1891-1896. 4. Trinity College, Cambridge, 1896-1900. 5. Undergraduate Holidays. 6. Early Hospital Appointments. 7. A Voyage Round the World, 1905. 8. Hospitals, The London, Voluntary and State Institutions. 9. Medical Students. 10. Examinations and Degrees. 11. Doctors. 12. Patients. 13. Pathology. 14. Blood Transfusion. 15. V.D. 16. The Sick in Mind. 17. The Professional Career and its Diversions. 18. The Ministry of Health, 1939-1949. 19. The War Against Disease. 20. Into the Unknown. 21. Growing Old, 1939-1949. Summary.

Here is a book which will give great pleasure to the reader, for its distinguished author writes of his early life and the years of service which he gave to medicine in a kindly, witty and at times critical strain. He tells of school and college days in a leisurely Victorian England and has a fund of stories of patients, nurses and colleagues. In the later chapters he deals with the work of the Ministry of Health in World War II, having been intimately associated with that work. He ends on a more serious note as he attempts to look into the future.

The result is a book of charm with wisdom interleaving the intimacy of biography; the whole a record of a life well and fully lived.

## EMBRYOLOGY AND GENETICS

*Sons and Daughters.* By Roger Pilkington. (Pp. 214, with illustrations. 18s.) London: George Allen & Unwin Limited. South African Representative: Howard B. Timmins, Cape Town. 1951.

**Contents:** 1. The Road to Babyhood. 2. Everything in the Right Proportion. 3. The Basis of Heredity. 4. Equipment for the Baby. 5. The Origin of Difference. 6. Genes and the Individual. 7. Genes and the Future. Recommended Books. Index.

This is an extremely clear and very well illustrated introduction to embryology including genetics. The author writes vigorously and well, and his text should prove invaluable to the medical student or the student of general biology seeking a reliable and readable introduction to the subject.

This popular account comes at a particularly opportune time, because in Soviet Russia a new variety of genetics has been invented, which has dispensed with the ordinary Western requirements of controlled experiment. The book is therefore important for the lay as well as the technical reader. Both categories of reader will find the author's entertaining and instructive production one which makes learning not only easy and interesting but also painless.

## DOCTORS ON DOCTORS

*Doctors by Themselves. An Anthology.* By Edward F. Griffith, M.R.C.S., L.R.C.P. (Pp. 614 + xxii, with illustrations. 21s.) London: Cassell & Co. Limited. 1951.

**Contents:** 1. The Doctor at Work. 2. The Doctor Amuses Himself. 3. The Doctor's Troubles. 4. The Doctor Looks at Life. 5. Life, Death and Immortality.

In Dr. Griffith's book the reader will find hours of pleasure extending over months or years; it is not a book to be read and put back on the library shelf but rather to be kept handy near the chair of relaxation.

He has dealt with writings of all aspects of a doctor's life through the ages, and the individual authors of the selected extracts must run into some hundreds.

One is conscious of the painstaking care with which the editor has compiled his collection of gems, and conscious, too, of the wisdom and humanity of the doctor-writers whose works he has studied so closely.

## CORRESPONDENCE

## BREAST FEEDING AMONG THE BANTU

To the Editor: In a letter to the *Journal* of 29 March 1952 I discussed the great success Bantu and Coloured mothers have in breast-feeding their babies and I gave the reasons why I considered they were so successful.

It is a well-known fact that Bantu and Coloured mothers breast-feed their babies for as long as one, 2 or even 3 years. I should like to state why I consider this practice a good one, and why the medical profession should encourage these mothers to feed their babies on the breast for such long periods.

On account of the prevailing poverty amongst the Bantu and many Coloured people, once the baby is taken off the breast he receives an unsatisfactory diet, because his mother cannot afford to buy him sufficient amounts of the following foods: cow's milk, eggs, meat, brown bread, green vegetables and fruit. Maize in the form of white mealie meal, mealie rice or samp (crushed maize from which the outer layers have been removed) forms the greatest part of the diet of a large percentage of Bantu children. Not infrequently all they receive is mealie meal porridge 3 times a day without milk or any other food added. Sometimes the children are given cow's milk with the porridge but in insufficient amounts. It is not often that they receive eggs, meat, brown bread (or white) or any green vegetables and fruit. Such a diet will contain sufficient carbohydrate, a fair amount of protein, insufficient fat, a marked deficiency of iron, no vitamins A, C and D unless cow's milk is given, a marked deficiency of nicotinic acid where no milk is given, and probably an insufficient amount of thiamine and riboflavin. Although calcium

and phosphorus are present in mealie meal, the latter mineral is present in 16 times the amount as compared with the former, whereas in breast milk there is twice as much calcium as there is phosphorus.

Now breast milk supplies a first-class protein, fat, carbohydrate, calcium and phosphorus in adequate amounts and in the correct proportion for the baby's needs, iron in moderate amounts, and vitamins A, B, B<sub>2</sub>, P-P factor, C, D and E. Milk also appears to enhance the action of the intestinal flora in producing vitamin B, and the P-P factor.

Experience shows that while Bantu babies are fed for one to 2 years on breast milk as well as on the inadequate supplies of other foods which the poor mother may be able to purchase, the babies are generally protected against or do not suffer from marked signs of the following diseases:

1. Nutritional oedema caused by a hypoproteinæmia and probably association with a deficiency of vitamin B, and the P-P factor.

2. Liver damage caused by a deficiency of protein in the diet.

3. Marasmus or infantile wasting or atrophy caused by a diet containing an excess of carbohydrate with a deficiency of fat and vitamins. Breast-fed babies on the whole are strong and sturdy and pass satisfactorily the various milestones of physical abilities such as holding the head up at 3 months, sitting at 6 months, and walking at 12-14 months.

4. Rickets produced by insufficient vitamin D or an inadequate supply of calcium and phosphorus or an unbalanced proportion of these elements in the diet. Exposure to sunlight produces an adequate amount of vitamin D from ergosterol and cholesterol in the child's skin, but in smoky, over-crowded

locations the children may not receive enough exposure to the ultra-violet rays of the sun. Breast milk will ensure that such children get the extra vitamin D they need. It also supplies calcium and phosphorus in the correct proportions to enable the body to build sound bones and strong teeth. The Bantu people possess wonderfully good teeth, but were it not for prolonged breast feeding it is very doubtful whether they would have such excellent teeth.

5. *Anæmia* is probably present in many of these Bantu babies, but it cannot be present to a marked degree as judged by the redness of the conjunctivæ, buccal mucous membrane and of the palate. Moreover, the babies are energetic and active, unlike anaemic children.

6. *Vitamin A Deficiency*. The following signs of vitamin A deficiency are practically never found in breast-fed babies: xerophthalmia (dryness of the eye), keratomalacia (softening of the cornea), Bitot's white spots on the bulbar conjunctivæ in the palpebral fissures, and follicular hyperkeratosis of the skin. In the latter condition there are sharp papules with a stump of broken hair in the centre scattered on the limbs. There is no lack of growth in these babies, and considering the unhygienic conditions under which they live, their resistance to infection is high.

7. *Vitamin B<sub>1</sub> or Thiamine deficiency* signs such as peripheral neuritis and generalized oedema (beri-beri) are lacking.

8. *Ariboflavinosis* in my experience is not found in the Bantu breast-fed babies. There is no cheilosis, magenta tongue, atrophy of the tongue papillæ, vascularity of the cornea, dimness of vision or photophobia. On the skin there are no inspissated plugs of sebum projecting from the nose, nasolabial folds or the chin.

9. *Infantile pellagra*, as far as I know, does not occur in breast-fed babies. It is when the child is taken off the breast and given a basic maize diet that we may meet the disease, manifesting itself as diarrhoea, oedema of the face, hands and legs and other parts of the body, hypopigmentation or hypopigmentation on the dorsum of the forearms and hands and other areas exposed to sunlight and, in very severe cases, an exfoliation and weeping of the skin. In adults cow's milk prevents pellagra.

10. *Scurvy*. Gross signs of scurvy are not seen in breast-fed Bantu children. Occasionally one finds swollen red gums, but not the typical bluish-red swellings around and partly covering the teeth, which occur in typical cases of scurvy. Sometimes the ribs or legs seem tender, but there is no beading at the costo-chondral junction, no falling back of the sternum, no petechial haemorrhages under the skin and no large haemorrhages under the periosteum of the bones; nor is there any hyperkeratosis follicularis of the skin.

11. *Vitamin E deficiency* does not occur in breast-fed babies because breast milk is very rich in this vitamin, which is bound up with the functions of the endocrine glands and with the tone and nutrition of muscles.

12. *Gastro-enteritis* occurs in breast-fed babies, but in my experience it is usually secondary to an upper respiratory tract infection or to otitis media. It is much easier to cure than when it occurs in babies who are not breast fed.

The great value of breast milk for Bantu babies during the first 2 years of their lives has been stressed. They should continue to be breast fed for so long a time, until their parents can afford to buy them adequate amounts of other body-building and health-promoting foods such as cow's milk, butter, eggs, meat, brown bread, vegetables and fruit.

F. A. Lomax, M.B., Ch.B.

Johannesburg Building Society Building,  
91 Cross Street,  
Kroonstad.  
8 April 1952.

#### TEN DIAGNOSTIC AXIOMS

*To the Editor:* I can think of 10 axioms which will assist in the diagnosis of disease. There are general principles—words of advice. Many of us practise them without defining them. We do it through habit, through experience—bitter or otherwise. To discover what your patient suffers from is not easy. Sometimes we are certain of the diagnosis, only later to find ourselves wrong. The axioms are aimed at minimizing the chances of such an error.

1. Always take a history from the patient. This is the most

difficult and most important part of the examination, in which most fail. There is too great a tendency to hurry over it. If you and your patient speak the same language, then you are fortunate. If neither can understand the other, an interpreter is essential. Where the patient cannot speak your language, but you can converse fluently in his tongue, then you should speak his language.

2. Always examine your case in the recognized method of procedure ensuring that your history takes you at least 3 times longer than your physical examination.

3. Do not readily accept the findings of a Laboratory or X-ray Department. If there is a disagreement, either your examination is faulty or the other side is wrong (allowing of course, for incidental findings). You cannot both be right. Therefore, where there is a different opinion, re-check your own findings and consult with the radiologist or pathologist.

4. If you are not certain of the diagnosis, consult with a colleague and ask him to examine the case.

5. Keep written notes on each case, to be recorded at the time of the examination.

6. Having formed an opinion about the cause of an illness, you must make every effort to establish the diagnosis by the best means at your disposal. For instance, having made up your mind that the patient has a bronchial carcinoma, do not inform your patient that this is so. You may tell him or his relatives that this is probable or very likely. You can only be definite after a biopsy and a confirmation from the pathologist.

7. If you have made a provisional diagnosis and after an interval the case is not responding or progressing as expected, re-open the case afresh, repeating the history, physical examination and tests.

8. When a case is being investigated and you have taken the necessary steps to form a diagnosis, always do in the meantime other tests considered in the differential diagnosis, lest your favoured diagnosis be incorrect.

9. Do not commence treatment until you have made a diagnosis or you have made a reasonably good one in the circumstances prevailing. If you have no diagnosis then treat, depending on the urgency of the case, for the likely or common condition, which could produce the particular syndrome. Before any treatment or treatments are started all tests should be made so that the results are not obscured by the treatment. For instance, if you are called to see a case of coma from a malarial area with fever, in the month of April, and all else is negative, then it would be justifiable to treat for cerebral malaria.

10. Remember that if you are consulted it is your duty to determine what is wrong with the patient. Not to do necessary examinations because of expense is fraught with danger, however reasonable and sensible your wish may be to save expense.

M. Gelfand.

Salisbury,  
Southern Rhodesia.  
15 April 1952.

#### VALUE OF BCG VACCINE

*To the Editor:* Having read your well-reasoned Editorial *Vaccination against Tuberculosis: Is it Effective?* with great interest, I do not quite understand the subsequent critical letter from Professor Elliott and his colleagues.

Briefly, you emphasized the following points:—

1. A Government campaign against tuberculosis is contemplated involving the immunization of thousands of Natives with BCG.

2. Workers in Scandinavian countries have endorsed the use of BCG vaccine as an effective, efficient and practical means of inducing immunity against tuberculous infection.

3. Myers, an eminent American authority, is opposed to BCG vaccination, stressing the fact that there is no dependable immunity in tuberculous infection. He points out that the tuberculosis death rate in New York City has fallen about 95% entirely without the use of vaccination.

4. The virulence of the BCG strains is not constant. Recent work in France, where BCG vaccination led to a widely disseminated killing disease in apparently normal hamsters and results with animals on a deficient diet suggest that an under-

nourished population is probably the least suitable one for a programme of prophylaxis.

5. The Medical Research Council in England sounds a note of doubt, pointing out that even after some 30 years, evidence of the efficacy of BCG vaccine is still inconclusive. The Council, however, states that it may be of value when given to those closely exposed to the disease, even then giving incomplete and impermanent protection.

6. It is suggested that it may be reasonable to suspect that the fundamental methods operating so effectively before the use of BCG may be responsible for the continued diminution in the incidence of tuberculosis, after the introduction of the vaccine.

7. In the United States, where the problem is being studied, workers anticipate that it will take 25 years, or longer, for the position about BCG to be clarified. It is, therefore, urged that the whole question should not be over-enthusiastically propounded in view not only of the constantly changing outlook about BCG vaccine, but also lest harm should be done to existing programmes devoted to tackling the known social causes of the disease.

8. It is, therefore, admitted that a *prima facie* case has been made for a carefully controlled study in the form of a pilot experiment. In fact, the *Journal* in 1948 recommended preliminary fieldwork.

To summarize the views of Professor Elliott and his colleagues:

1. It is an ambitious undertaking to examine the proposed Government programme 'dispassionately and scientifically' in a 3-column editorial.

2. In view of the publicity given to this editorial by the lay press, considerable prejudice will have to be overcome should it eventually be decided to employ BCG in this country.

3. The antagonism of Myers in the United States to BCG vaccination is based only on his experience in the prosperous State of Minnesota, where the living conditions are entirely different from those which obtain among the urbanized Bantu and Coloured peoples of South Africa.

4. The protagonists of BCG claim that its greatest, if only, value lies in replacing a natural primary infection and conferring a comparable immunity without the attendant dangers of natural primary infection.

It is contended that 80% of a series of 90 cases dying at Baragwanath Hospital in Johannesburg had developed from the primary type of infection, as compared with 3% or less seen by Myers.

5. A comparison is made between the Natives of South Africa and a group of American Indians, who were vaccinated by Aronson. The mortality rate from tuberculosis among the vaccinated was 6 compared with 53 in the controls.

6. After a perusal of the literature, no evidence is found to support the supposition that BCG is dangerous to life when given to human beings.

7. Wallgren of Stockholm has not seen a single case of tuberculous meningitis or a single death from tuberculosis in adequately vaccinated children and Malmros has only seen one case of pulmonary tuberculosis in 22,413 subjects vaccinated with BCG since 1942.

8. The occasional skin ulcer and adenopathy seen after BCG vaccination can probably be controlled with Streptomycin.

9. In view of the gravity of the situation among the Bantu of this country and the comparatively slow rate of social progress, can South Africa afford to wait for the results of the American experiment mentioned in the Editorial.

10. The *Journal* should not run the risk of putting itself in the position of pre-judging matters which are the concern of the Government Health Authorities who, no doubt, seek advice before arriving at their decisions.

11. A plea is made for great consideration before the use of BCG is abandoned.

To this bird's-eye view of the controversial subject of BCG vaccination, culled from your Editorial and Professor Elliott's letter, I should like to add the following points:

1. All the strains of BCG in use are apparently derived from the attenuated culture first obtained by Calmette and Guerin. Variation from the original strain has been noted. According to Dubos (Dubos, R. J. (1949): Amer. Rev. Tuberc., 60, 670) the skin lesions produced in experimental animals in Scandinavia differ appreciably from those produced in American laboratories. This worker also found quantitative variation in the number of viable organisms in the present-

day cultures used in immunization. This raises the question of the safety of the use of the vaccine.

2. The local reaction to the intracutaneous injection of BCG vaccine varies in different races. Levine found that whereas 24.3% of white children developed ulceration of the draining inguinal nodes, 41.7% and 47.3% of Puerto Rican and Negro children, respectively, developed similar ulcers (Levine, M. I., *Tissue Response of White and of Negro Children to Induced Tuberculosis*, Amer. J. Dis. Child., May 1936, 51, 1052-8).

Dorothy Stopford Price, in a report on the vaccination of infants at St. Ultan's Hospital, Dublin, stated that she had not seen the development of abscesses or adenitis, though about a third of the cases ooze slightly for 2 or 3 months after vaccination (Price, D. S., *The Need for BCG Vaccination in Infants*, Tubercle, 1949, 30, 11-14).

3. Although our knowledge of immunity in tuberculosis is very inadequate, it is accepted that whatever immunity develops is not dependable or permanent. Furthermore, it is stated that the clinically destructive forms of the disease only occur in patients who have had primary tuberculosis.

BCG is a form of primary infection. Is it therefore rational to 'sensitize' infants and adults with a vaccine?

On the other hand, Wallgren (in 1947) reported that in Gothenberg where BCG vaccination was a routine measure, there were no tuberculous deaths before one year of age in the period 1942-1945. There is, however, no comment on the death rate from clinically destructive forms of the disease in later years.

Levine recently called attention to the fact that the tuberculosis mortality in children in New York City, where BCG was not in use, compares quite favourably with the mortality rates in Gothenberg where practically all infants exposed to tuberculosis were given BCG, but where practically no control material was available (Levine, M. I. and Hertzberg, Gerhard, *The Achievements of BCG Vaccination*, Amer. Rev. Tuberc., 1949, 60, 675).

Slater in a discussion on BCG, summarizes these views by saying: 'It would, therefore, seem much more sensible to prevent any infection, regardless of its strength, entering one's body' (Amer. Rev. Tuberc., 1948, 58, 112).

4. The tuberculin test would become almost useless following the BCG vaccination of considerable numbers of children and young adults.

5. Myers states that if BCG were highly efficacious, an abundance of convincing proof should be available after more than a quarter of a century of use and after its administration to approximately 7 million people.

I have attempted to demonstrate by these additional points that there is a genuine lack of satisfactory or consistent experimental proof of the efficacy of BCG. The evidence is suggestive but inconclusive. In South Africa we are dealing with a Bantu population grievously affected by the ravages of tuberculosis. We do not yet know what their reaction to the BCG vaccination itself will be—if it is their primary 'infection', how do we know that it may not evidence the grim features of the primary infection as we see it to-day.

May we not, in emotionally considering the high present-day tuberculosis mortality rate, overlook the fact that in later years we may have an immunized Bantu population who will develop the clinically destructive and communicable form of the disease? We do not know.

Therefore, I cannot agree with Professor Elliott and his colleagues that the Editorial was not what it purported to be. It was, in fact, scientific and dispassionate, presenting the evidence from the 'for' and 'against' schools and simultaneously suggesting and urging controlled experiments. The Editorial was primarily a critical commentary and not a detailed review. It was a plea for considered action on scientific lines as opposed to an attitude of 'what have we to lose?' and at no stage was it suggested that the use of BCG should be abandoned.

W. L. Phillips, F.R.C.S., M.R.C.P.  
Thoracic Surgeon to Groote Schuur Hospital,  
Westlake Tuberculosis Hospital, Brooklyn  
Chest Hospital, and the City Hospital for  
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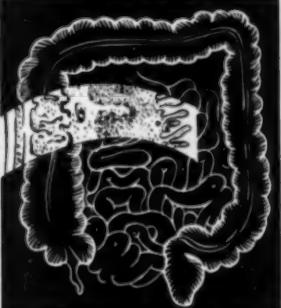
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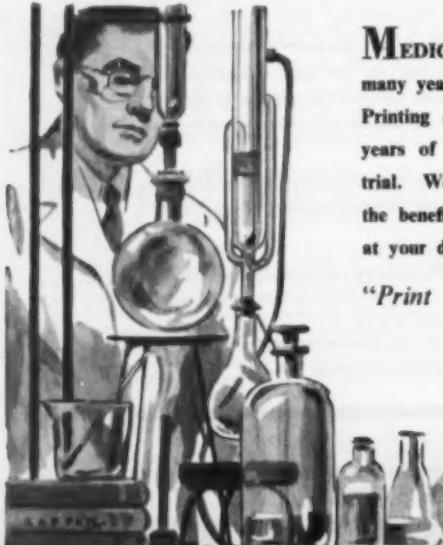
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**MULTIVITAMIN TABLETS  
(PETERSEN)**

Each tablet contains:

VITAMIN A . . . . .	4,000 units
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ASCORBIC ACID . . . . .	25 mgm.
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Bottles of 40, 100 and 500 tablets

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NICOTINAMIDE . . . . .	20 mgm.
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P. 17

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HYPERTENSION**

HEPVISC is a New Hypotensive Agent combining Mannitol Hexanitrate (8mg.) with Viscum Album (50 mg.) in one tablet.

It effectively relieves Hypertension and controls subjective symptoms.

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**TWO TABLETS THREE OR FOUR  
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Bart Mendelsohn (Pty) Ltd.,  
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P.O. Box 1314, Cape Town.Couriers' Agencies  
P.O. Box 352, East London.

## The Medical Association of South Africa Die Mediese Vereniging van Suid-Afrika

AGENCY DEPARTMENT : AGENTS KAP-AFDELING

### KAAPSTAD : CAPE TOWN

Postrus 643, Telefoon 2-6177 : P.O. Box 643, Telephone 2-6177

### PRAKTYKE TE KOOP : PRACTICES FOR SALE

(746) Large dispensing practice, mainly non-European. Average annual cash receipts approx. £5,200. £5,500 required for premium, drugs and surgery furniture. Details on application.  
 (974) Western Cape. Unopposed solus dispensing practice with four appointments. Gross annual receipts, £4,300. Premium of £3,000 required, includes surgery furniture, drugs and transference of the appointments. Modern 12-roomed d/s house for sale at £5,000. Bond available for £3,200. Terms of payment open for discussion.  
 (1022) Cape Town Suburb. Old-established practice. Premium required £1,750. Terms available. Details on application.

### ASSISTENTE/PLAASVERVANGERS VERLANG ASSISTANTS/LOCUMS REQUIRED

(981) Cape Town Northern Suburb. Assistant required for general practice. Salary to be arranged.  
 (960) Eastern Province hospital town. As soon as possible, an assistant with view to partnership. Car essential but would not normally be required for practice. Single man preferred but not essential. Remuneration to be arranged.

### JOHANNESBURG

Medical House, 5 Easelen Street. Telephones 44-9134-5, 44-0817  
Mediese Huis, Easelenstraat 5. Telephone 44-9134-5, 44-0817

### PRAKTYKE TE KOOP : PRACTICES FOR SALE

(Pr/S34) Progressive Transvaal town dispensing practice. Average gross income £3,500 p.a. Excellent surgical facilities. Owner going overseas.  
 (Pr/S31) O.V.S.-praktijk. Goeie geleentheid vir algemene geneesheer met aanleg vir anywerk. Alle fasilitete. Medisyne word aangemaak. Moet tweetalig wees. Jaarlikse inkomste £2,400. Eienaar gaan verder studeer. Premie vir klandisiwaarde, instrumente en voorrade, £1,500. Een maand introduksie sal gegee word.

(Pr/S35) Eastern Transvaal. Dispensing practice. Annual gross income, £3,500. House for sale at £3,000. Large bond available. Premium £1,750. Terms open for discussion.

(Pr/S36) O.F.S. dispensing practice. Annual income, £3,000. Practice is unopposed. House for sale at £2,000. Premium of £1,200 includes drugs and surgery furniture.

(Pr/S38) Uitstekende O.V.S.-praktijk. Jaarlikse inkomste oorskry £3,000. Medisyne word aangemaak. Huis en spreekkamers sentraal geleë en te huur teen £5 p.m. Premie £1,250, en terme kan gereël word. Hierdie praktyk brei nog daagliks uit. Eienaar wil hom graag in stad vestig.

(Pr/S39) Pretoria practice. Details on application.

(Pr/S40) O.V.S.-praktijk. Medisyne word aangemaak. Groot woonhuis en spreekkamers te huur. Premie van £750 sluit spreekkamermeubels, medisyne en instrumente in. Terme kan gereël word.

(Pr/S41) Johannesburg, Northern Suburbs. Dispensing practice. One appointment £600 p.a. Knowledge of Afrikaans *not* essential. A north-facing flat is available in the same building as the surgery. Full details on application.

### DURBAN

112 Medical Centre, Field Street. Telephone 24049

### PRACTICES FOR SALE : PRAKTYKE TE KOOP

(PD6) Radiological practice, established 1923, in large coast city. Equipped for diagnosis, superficial and deep X-ray therapy and also superficial radium therapy. Extensive ground-floor rooms to be taken over on long lease. Premium required £6,750 cash, or terms arranged under suitable guarantees. For immediate sale.

(PD7) Solus prescribing practice on Natal South Coast. Scope for Native practice which at present is discouraged. Hospital facilities available at Port Shepstone Hospital, approximately 10 miles from consulting rooms. Premium required £2,500,

which includes instruments, drugs, and furniture. Cash is preferred, but terms could be discussed. It is preferred not to sell this practice before the end of June 1952, but introduction could commence without delay and principal will allow half the net income. No appointments held. House is for sale at £4,500, partly furnished, but is not part of the practice.

(PD8) Natal South Coast practice. Would suit retired doctor. European population approximately 100. 31 miles from Bizana, 22 miles from Margate. Premium required £400. Includes a good stock of drugs, dressings, instruments and surgery furniture. House for sale £1,800, including stand of  $\frac{1}{2}$  morgen. For immediate sale.

(PD9) In large coastal City. Specialist in Physical Medicine wishes to dispose of private practice immediately. Centrally situated Rooms, full equipment and staff including Physiotherapists to be transferred.

(PD10) General Practice. Natal Inland City. European and non-European patients. Scope for midwifery and surgery. Premium required £1,250, cash preferred but terms will be considered. For immediate sale.

### LOCUM REQUIRED

For month of July. General Country Practice in Zululand £3 3s. per day plus £5 car allowance. Locum must possess his car. Afrikaans essential.

## Provincial Administration of the Cape of Good Hope HOSPITALS DEPARTMENT

### SIR HENRY ELLIOT HOSPITAL, UMTATA

#### VACANCIES FOR MEDICAL PRACTITIONERS

Applications are invited for the following posts on the staff of the Sir Henry Elliot Hospital, Umtata:-

1. Medical practitioner, Grade B, salary scale £720x40—£960 per annum.
2. Medical practitioner, Grade A, salary scale £500—600—£60—£720 per annum.

The cost-of-living allowances prescribed by the Administrator are also payable.

Conditions of service are the same as those prescribed for corresponding posts in the Hospital Board Service in terms of the Hospital Board Service Ordinance, No. 19 of 1941, and the regulations framed thereunder, and the appointments are terminable by the tendering of ninety days' notice on either side.

Applications must be submitted in duplicate on the prescribed form, Staff 23, which is obtainable from the undersigned or from any Provincial Hospital or School Board office in the Province. Completed application forms are to be addressed to the undersigned and the closing date for receipt thereof will be noon on 24 May 1952.

Candidates must state the earliest date on which they can assume duty.

P.O. Box 202,  
Umtata.  
24 April 1952.

G. W. Jarman  
Branch Representative

1198

## Provincial Administration of the Cape of Good Hope HOSPITALS DEPARTMENT

Applications are invited from registered medical practitioners for the post of Honorary Assistant Surgeon at the Woodstock Hospital.

The appointment will be for 5 years, but may be terminated before the end of that period if and when the medical staffing of the hospitals is reorganized.

Applications containing particulars of age, qualifications, experience etc. with copies of recent testimonials should be forwarded to the undersigned not later than noon on Friday, 23 May 1952.

Hospitals Department,  
58, Loop Street,  
Cape Town.

I. P. Walton

20250

## Siekefonds van die Suid-Afrikaanse Spoorweë en Hawens

AANSTELLING VAN SPOORWEGDOOKTER:  
MAYFAIR 'B' (JOHANNESBURG)

Applikasies word van geregistreerde mediese praktisys ingewag vir die betrekking van Spoorwegdokter, Mayfair 'B' (Johannesburg) teen 'n salaris van £1,263 per jaar, plus die gelde en toelaes wat in die regulasies van die Siekefonds voorgeskryf word, en met die reg om privaat te prakiseer.

Die salaris is onderhewig aan wysing in ooreenstemming met die sensus van lede wat op 1 April van elke jaar afgemeet moet word.

Die aanstelling geskied kragtens die regulasies van die Siekefonds, en opsgeging van dienste is onderworp aan vier maande kennisgewing deur een van beide partye.

Die suksesvolle applikant moet in die geneeskundige distrik woon, diens aanvaar op 'n datum wat gereel sal word, en sy pligte ooreenkomsdig die regulasies van die Siekefonds uitvoer. Aansoek moet die Distriksekretaris, Distriksiekefondsbraad, Wes-Traensval, Kamer 342, Derde Verdieping, Nuwe Statieggebou, Johannesburg, nie later nie as 2 Junie 1952 bereik, en applikante moet die volgende vermeld:

1. Volle naam.
2. Kwalifikasies (waar en wanneer verkry).
3. Ondervinding (waar en wanneer verkry en opgedoen).
4. Datum van geboorte.
5. Land van geboorte.
6. Getroud of ongetroud.
7. Of ten volle tweetalig.
8. Of Suid-Afrikaanse burger.
9. Watter staatsbetrekking, indien enige, beklee word.
10. Werwing deur of ten behoeve van enige applikant stel so 'n applikant bloot aan diskwalifikasie.

Enige verdere besonderhede wat verlang word, kan op aanvraag van die Distriksekretaris by die bovemelde adres verkry word.

P. J. Klem  
Hoofsekretaris

Johannesburg  
10 Mei 1952

## City of Cape Town

### APPOINTMENT OF ASSISTANT DEPUTY MEDICAL OFFICER OF HEALTH

Applications are invited from registered medical practitioners under 45 years of age for the position of Assistant Deputy Medical Officer of Health in the City Health Department. The possession of a Diploma in Public Health or State Medicine is essential.

The successful applicant will be required to devote the whole of his time to the work of the Council, to undertake the duties of medical officer to uniformed members of the Municipal Fire Brigade and Traffic Police Force, the pre-employment examination of entrants into the municipal service and to act as medical officer in terms of the Municipal Pension Fund Rules and Leave Regulations. He will be required to assist the Deputy Medical Officer of Health in the investigation and control of infectious diseases, to act for this officer during his absence on leave and to carry out such other duties as may be allocated to him from time to time.

The position is assigned to Grade 151, Scale £1,404 x 48—£1,644 plus temporary cost-of-living allowance. A motor transport allowance will be paid in accordance with rates prescribed by the Council for mileage travelled on official duty.

The appointment will be subject to the provisions of the Public Health Act No. 36 of 1919 and of Municipal Ordinance No. 19 of 1951; to the Standing Orders of the Council and to the Municipal Staff Code, all as amended from time to time. Furthermore, the appointment and the salary grade are subject to the approval of the Minister of Health.

Applications in duplicate on the prescribed forms obtainable from the Senior Staff Officer, Municipal Buildings, Longmarket Street, Cape Town, should reach him not later than noon on Wednesday, 28 May 1952.

M. B. Williams  
Town Clerk  
8958

City Hall  
Cape Town  
25 April 1952  
6113

## Provincial Administration of the Cape of Good Hope

### HOSPITALS DEPARTMENT

#### HOSPITAL BOARD SERVICE: VACANCIES

Applications are invited for the undermentioned vacant posts in the Hospital Board Service.

The appointment of the successful candidates will be made in terms of, and be subject to, the Hospital Board Service Ordinance, 1941 (Ordinance No. 19 of 1941) and the regulations framed thereunder.

In addition to the emoluments specified hereunder, cost-of-living allowance is payable to whole-time officials and employees.

Applications should be submitted (in duplicate) on the prescribed form Staff 23, which is obtainable from the Director of Hospital Services, P.O. Box 2060, Provincial Building, Wale Street, Cape Town, or from the Branch Representative, of the Hospital Department at Cape Town (P.O. Box 1487), Port Elizabeth (P.O. Box 80), East London (P.O. Box 13), Kimberley (P.O. Box 618), and Umtata (P.O. Box 202), or from the Medical Superintendent of any Provincial Hospital or Secretary of any School Board in the Cape Province.

The closing date for the receipt of applications is 27 May 1952 and applications should be addressed to the Branch Representative, Hospitals Department, P.O. Box 1487, Cape Town.

Institution	Post	Emoluments
Groote Schuur Hospital	Medical practitioner Grade 'A'	£500—600— 1 post, Department of Medicine 1 post, Department of Surgery. 1 post, Department of Pathology.
Groote Schuur Hospital	Medical practitioner, Grade 'B'	£720 x 40— 1 post, Department of Medicine. 1 post, Department of Surgery. 1 post, Department of Pathology.

Applicants for 'B' posts must state whether prepared to accept 'A' posts in event not successful for 'B' posts. 20245

## City of Johannesburg

### VACANCY FOR PHYSICIAN-IN-CHARGE, FEVER HOSPITAL

Applications are invited for the position of locum tenens to the part-time Physician-in-Charge at a salary at the rate of £912 per annum.

Applicants must be registered specialist physicians who have had experience of Fever Hospital administration and the treatment, medical and surgical, of infectious diseases in recognized isolation hospitals.

Full particulars of the duties and conditions of service may be obtained on application to the Medical Officer of Health, 18 Hoek Street (or P.O. Box 1477), Johannesburg.

The successful applicant will be required to attend the Fever Hospital at such times and perform such duties as may be allocated from time to time by the Medical Officer of Health. He will also act as consultant in individual cases at Waterval Hospital or elsewhere when so required.

Personal canvassing for appointments in the gift of the Council is strictly prohibited. Proof thereof will disqualify candidates for appointment.

Applications on special forms to be obtained from the Central Staff Office, Room 223, Municipal Offices, Johannesburg, must be forwarded to the Central Staff Office not later than 23 May 1952.

Brian Porter  
Town Clerk

## To Let

Professional suite, furnished or unfurnished, in medical building in large rapidly growing middle-class residential suburb in Durban. Waiting room, nurse and telephone to share with dentist. Ideally suitable for medical man from overseas or with no Afrikaans. Write: 'A.L.O.' P.O. Box 643, Cape Town.

## South African Railways and Harbours Sick Fund

### APPOINTMENT OF RAILWAY MEDICAL OFFICER: USAKOS

Applications are invited from registered medical practitioners for the position of Railway Medical Officer, Usakos, and for the section of railway line Vogelsang (exclusive) to Trekkopjes (inclusive) and to Erongo (inclusive) at a salary of £803 per annum, plus £50 p.a. surgical allowance, plus the fees and allowances prescribed by the Regulations of the Sick Fund, and with the right of private practice.

The salary will be subject to adjustment in accordance with the census of members to be taken on 1 April of each year.

The appointment will be made in terms of the Regulations of the Sick Fund, and will be subject to termination on four months' notice being given by either side.

The successful applicant will be required to reside at Usakos, where a house is available at a rental of approximately £72 per annum, to take up the appointment on 1 July 1952 and the duties will include the dispensing of drugs and medicines to be supplied by the Sick Fund.

Applications should reach the District Secretary, District Sick Fund Board, P.O. Box 322, Windhoek, not later than 2 June, 1952 and should state:

1. Full name.
  2. Qualifications (where and when obtained).
  3. Experience (where and when obtained).
  4. Date of birth.
  5. Country of birth.
  6. Whether married or single.
  7. Whether fully bilingual.
  8. Whether South African citizen.
  9. What Government appointment, if any, is held.
- Canvassing by or on behalf of any applicant is liable to disqualify such applicant.

Any further particulars required may be obtained from the District Secretary at the above address, on application.

P. J. Klem  
General Secretary

Johannesburg  
10 May 1952

## Cape Provincial Administration HOSPITALS DEPARTMENT

### VACANCIES : HONORARY MEDICAL STAFF

Applications are invited from registered medical practitioners under the age of 60 years for appointment to the undermentioned posts on the honorary staff of the Conradi Hospital, Pinelands, C.P.:-

- (a) *Specialists*:
  - One physician.
  - Two surgeons.
  - One ear, nose and throat surgeon.
  - One ophthalmologist.
  - One urologist.
  - One gynaecologist and obstetrician.
  - One anaesthetist.

- (b) Eight medical officers.

The appointments are subject to the Hospitals Ordinance No. 18 of 1946 (Cape) as amended and to the rules and regulations of the Department and will in the first instance be for a period of 1 year when the honorary medical staff establishment may be revised.

Applications containing full particulars of qualifications etc., must be addressed to the Medical Superintendent, Conradi Hospital, Pinelands, so as to reach him by 24 May 1952.

### To let

Two rooms, Durban Road, Mowbray, available as consulting rooms. Immediate occupation. Apply Deary Trust Company, Main Road, Rondebosch.



Printed by Cape Times Ltd., Parow, and Published by the Proprietors, THE MEDICAL ASSOCIATION OF SOUTH AFRICA,  
MEDICAL HOUSE, 35 Wale Street, Cape Town. P.O. Box 643. Telephone 2-6177. Telegrams: 'Medical'

## South African Railways and Harbours Sick Fund

### APPOINTMENT OF RAILWAY MEDICAL OFFICER: COOKHOUSE

Applications are invited from registered medical practitioners for the position of Railway Medical Officer, Cookhouse, and section of railway line to Middleton (exclusive), Mortimer (exclusive) and to Eastpoort (exclusive), at a salary of £467 per annum, plus the fees and allowances prescribed by the Regulations of the Sick Fund, and with the right of private practice.

The salary will be subject to adjustment in accordance with the census of members to be taken on 1 April of each year.

The appointment will be made in terms of the Regulations of the Fund, and will be subject to termination on four months' notice being given by either side.

The successful applicant will be required to reside at Cookhouse, to take up the appointment on a date to be arranged, and to carry out his duties in accordance with the Regulations of the Fund.

A railway house will be available at a monthly rental of approximately £8 12s. 6d., plus water and light.

Applications should reach the District Secretary, Cape Midland District Sick Fund Board, Room 116, Mutual Arcade, Port Elizabeth, not later than 25 June 1952, and should state:

1. Full name.
2. Qualifications (where and when obtained).
3. Experience (where and when obtained).
4. Date of birth.
5. Country of birth.
6. Married or single.
7. Whether fully bilingual.
8. Whether South African citizen.
9. What Government appointment, if any, is held.

Canvassing by or on behalf of any applicant is liable to disqualify such applicant.

Any further particulars required may be obtained from the District Secretary at the above address.

P. J. Klem  
General Secretary

## Provinciale Administrasie Kaap die Goeie Hoop

### HOSPITAAL DEPARTEMENT

### VAKATURE VIR ERE'MEDIESE PERSONEEL

Aansoeke word ingewag van geregistreerde mediese praktisys onder die ouderdom van 60 jaar vir aanstelling in die ondergenoemde posse op die ere staf van die Conradi Hospitaal, Pinelands:-

- (a) *Spesialiste*:
  - Een internis.
  - Twee chirurge.
  - Een keelarts.
  - Een oogarts.
  - Een blaas-en nierarts.
  - Een ginekoloog en verloskundige.
  - Een nakotiseur.

- (b) Ag mediese beampies.

Die aanstellings is onderweg aan die Hospitaal Ordonnansie No. 18 van 1946 (Kaap die Goeie Hoop) soos gewysig en die reëls en regulasies van die Hospitaal Departement en sal voorlopig vir een jaar geld waarna die Ere Mediese diensstaat hersien mag word.

Aansoek wat volle besonderhede van applikante se bevoegdhede bevat moet gerig word aan die Mediese Superintendent, Conradi Hospitaal, Pinelands, en sal ontvang word tot 24 Mei 1952.

# Elastoplast

TRADE MARK

## in the treatment of Finger Injuries

In the treatment of minor finger injuries a useful finger cot can be made from a small piece of 3-in. Elastoplast Bandage.

Stretch the Elastoplast round the finger, overlapping at the top and side, and pinch the adhesive surfaces together all round. Cut round the edges. The cut side should be farthest away from the wound. This dressing will stay in position for a considerable time in spite of frequent washing. A similar

dressing may be used in the treatment of warts, where short but continuous occlusion removes the epithelial debris; or as a covering for chilblains, where the occlusive properties relieve the pruritus and generally improve the condition. No intervening dressing is required, whether the skin is broken or intact.



# Elastoplast

TRADE MARK

ELASTIC ADHESIVE BANDAGES

Made in England by T. J. SMITH & NEPHEW LTD., HULL, ENGLAND

ENQUIRIES:

SMITH & NEPHEW (PTY.) LTD., BOX 2347 DURBAN



# new

# Sucaryl

TRADE MARK  
**SODIUM**  
 (CYCLAMATE SODIUM, ABBOTT)



A stable, synthetic sweetening agent with no caloric value. For use in diabetic, reducing or other diets in which sugar is forbidden or the amount limited.



SUCARYL SODIUM has these advantages over Saccharin:—

1. It has no bitter after-taste if used moderately and is, therefore, especially palatable in hot drinks, such as coffee or tea, and in iced drinks.
2. It may be used in cooking and baking foods—such as fruits, pastries, etc., since it is not decomposed by the heat necessary for their preparation or by boiling in solution.



SUCARYL SODIUM  $\frac{1}{2}$ -Gm. tablets (each equivalent to 1 teaspoonful of sugar) are available in bottles of 100 tablets—List 3889.

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